Drawing The Suburb Together

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Denne afhandling er summen af mange menneskers hjælp, ihærdighed, galgenhumor, sparring, nysgerrighed, tid, opbakning, faglige indspark, perspektiver, tekniske ekspertise og tålmodighed. Så tak til Jer allesammen:

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En helt særlig og stor tak for altid kærlig opbakning til Owen, Finley, mine forældre og resten af familien

Abstract

The dissertation investigates the interplay between GPS technology, user and place. The main focus is to explore what kind of knowledge GPS technologies create about the urban environment and how this interplay can be employed in order to perceive and conceptualize the (sub)urban. The conext of the dissertation is the Danish welfare suburb, which emerged in the 1960's and continues to leave a significant imprint on the periphery of many Danish towns and cities. Housing was a key element of the "welfare machine"which was employed to create a higher quality of living amongst people living in cramped inner city neighbourhoods. It is within this context the research question is applied and tested, more specifically Aalborg Øst, a suburb to Aalborg. Instead of investigating the suburb as a geographically bounded phenomenon, the dissertation applies a relational conceptualisation of place. This conception is located in a metatehoretical framework consisting of Actor-Network theory and post phenomenology. The metatheoretical framework is unpacked through a series of theoretical readings which all employ and operationalize the relational and embodied foci of the dissertation. In order to capture and work with a conceptialisation of place as something which emerges through movement and practice mobile methods are equally employed. GPS tracking as well as walk-along interviews are employed in order to investigate the embodied and practiced aspects of the GPS tracks. The empirical part of the dissertation is divided into two sections. The first section investigates GPS tracking as a research method by looking at 20 young peoples' GPS tracks and what type of knowledge it produces. The GPS maps show an aggregated view on the urban environment as well as an embodied bottom-up perspective. Using the GPS tracks as a starting point we then follow 6 participants on a guided tour around their neighbourhood in order to add a more qualitative and affective layer to their GPS tracks. Employing the metatheoretical framework, we finally look at the GPS maps as a research object in order to explore the "more-than"embedded in the methodology. The dissertation thus explores how GPS technologies work as a research method in an urban context and which narratives it unfolds when approaching the urban from a relational and dynamic perspective. In this research project a participatory potential emerged in the intersection between the aggregated and the embodied view on the urban which the method affords. Similarly, the GPS tracks unfolded a stories about how places emerge through interaction and movement and thus creates a story about the suburb which challenges a perception of the suburb as rooted and bounded.

Resumé

Afhandlingen undersøger hvordan man kan forstå samspillet mellem GPS teknologi,bruger og sted. Fokus for afhandlingen er at undersøge hvilken viden GPS teknologien tilvejebringer om byen og hvordan dette samspil kan anvendes til at forstå det (sub)urbane. Konteksten for afhandlingen er den danske velfærdsforstad. Født i velfærdssamfundets velmagtsdage i 1960'erne, har velfærdsforstaden efterladt et tydeligt aftryk i periferien af de danske byer. Boligen var en del af en større "velfærdsmaskine" der blev rullet ud for at højne levestandarden for de borgere der boede under trange kår i bykernerne. Det er i denne kontekst at forskningsspørgsmålet afprøves, nærmere betegnet Aalborg Øst, som er en tidstypisk forstad i Aalborg.I stedet for at undersøge forstaden som et afgrænset fænomen undersøger afhandlingen hvad man kan sige om et sted når man bringer GPS teknologien i spil. Afhandlingen arbejder derfor med en dynamisk og relationel stedsforståelse. Denne teoretiske ramme er forankret metateoretisk i Aktør-netværk teori og postfænomenologi. Den metateoretiske ramme er dernæst udfoldet i en gennemgang af byteori som arbejder med og operationaliserer afhandlingens fokus på det relationelle og kropslige. For at indfange og arbejde med stedet som noget der opstår i gennem bevægelse og praksis anvender afhandlingen tilsvarende mobile metoder. Dels anvendes GPS sporing og dels anvendes walk-along interviews som bidrager til at undersøge kropslige og praksisorientede lag af GPS sporingerne. Afhandlingens empiriske del er opdelt i to: Første del afprøver GPS sporingen som metode. Med udgangspunkt i 20 unges GPS sporinger undersøges hvad det er for en type viden GPS sporingen har tilvejebragt. GPS kortene viser både et aggregeret blik på byen og et kropsligt og praktiseret "nedefra" blik .

Dernæst følger vi i hælene på 6 deltagere og gennem walk-along interviews kaster denne del afhandlingen lys på hvordan de unge praktiserer deres by. Med udgangspunk i GPS sporene tager deltagerne os på en guidet tur i deres nabolag og på den måde bliver der lagt et mere kvalitativ og affaktivt lag på deres GPS spor. Afslutningsvis undersøges GPS sporene som forskningsobjekt for at belyse hvad deres "merværdi" så at sige er og her bringes den metateoretiske ramme i spil igen. Afhandlingen belyser således hvilke muligheder GPS teknologien tilvejebringer som undersøgelsesmetode i en bymæssig kontekst og hvilke historier man kan skabe om byen når den angribes fra et relationelt og dynamiskt perspektiv. I denne undersøgelsessammenhæng åbnede metoden op for et participatorisk potentiale, som findes i opstår mellem det aggregerede og det kropslige blik på byen. Tilsvarende udfoldede GPS spor og interviews historier om et sted som opstår i kraft af bevægelser og interaktion og på den måde skabes en fortælling om forstaden som bryder med forestillingen om stedet som rodfæstet og afgrænset.

Content

INTRODUCTION

01

Introduction

Prelude

My first encounter with Aalborg Øst was somewhat ephemeral. Before moving to Aalborg in 2010 I had only ever passed Aalborg on the motorway on the way to our summerhouse up north. When returning from the summerhouse I always took note of the motorway exit "Humlebakken,", just as you pass the Limfjord Tunnel. When you exit the tunnel you have to bear left if you are headed south, otherwise you end up on Humlebakken. I had no idea of what Humlebakken looked like, but to me it resonated a familiar suburban landscape I was acquainted with from the places in Odense and Copenhagen where I grew up. Humlebakken sounded like one of those placenames made to sound as if it had always been there. A place people would use as a social demarcation line – either a place you were from or where you most certainly were not from. It reminded me of teenagers on scooters, the very particular smell of the vinyl flooring at my old school, playing rounders with my friends and expertly navigating the walkways zigzagging through the suburb. This landscape felt familiar and at the same time alien. What were the kids like who lived there? Where would the inevitable walkways around Humlebakken take you? What did it look like?

In January 2010, I moved to Aalborg. A blank spot on my mental map. Other than the landmarks I had marked along the motorway – the industrial skyline and the road sign for exit 25 Humlebakken – my only impression of Aalborg was that of a rough industrial city (a reputation which turned out to be very far from the reality, but that's a different story). As a part of the research project, Aalborg Øst was assigned as my case study and all I knew about Aalborg Øst at that stage was that the university was located there. To supplement this I had some statistical indicators to go by: two thirds of the housing stock is owned by housing associations, the area is ethnically diverse, roughly 40 percent are under 18 and in some estates the figure is as high as 50 percent. But what struck me when explaining my research project to locals was the many biased opinions about Aalborg Øst I was often confronted with: "It's full of troublemakers", " I would never buy a house there", "Remember to bring your bulletproof vest!". Aalborg Øst does have its fair share of social problems but they are far from representative. When speaking to Claus Bjørnton from Himmerland Housing Association about the socio-economic composition of Aalborg Øst it became clear that problems are often very local. Some housing estates struggle with socially marginalized residents while others function fine.

So on a grey day in February I had my first actual encounter with Aalborg Øst. With Claus as my guide I headed off on a tour of Aalborg Øst. We drove there in a car, which in turn led to a very distinct impression of Aalborg Øst. The physical layout of Aalborg Øst makes it rather difficult to penetrate the neighbourhood by car: large roads lead cars around Aalborg Øst and only dead-end roads lead into the neighbourhood, so if you are in a car you can't go beyond the car park at the end of each road. Only bikes, scooters and pedestrians are welcome on the extensive network of walkways which weave Aalborg Øst together. Along with my lack of knowledge about the overall structure of Aalborg, the tour left me with a somewhat confusing impression of the physical composition of Aalborg Øst. You don't see any tower blocks, only two- or three-storey buildings nestled in the hilly topography of Aalborg Øst and the green vegetation, blocking views of the housing estate from the large roads. Because of these particular physical properties, Aalborg Øst seemingly lacked obvious landmarks. This made it somewhat difficult to draw up a mental map of Aalborg Øst when experiencing it the first time from a car.

The hilly topography of Aalborg Øst

My second encounter with Aalborg Øst was on a sunny day in April 2010 when I got on my bike and cycled to Aalborg Øst to meet Dorit from Projekt 9220, a local regeneration project. The bicycle ride took me up the almost mythical Humlebakken, which turned out to be a long dual carriageway primarily geared for car and lorry traffic. A lattice fence in the middle of the road prevents 'unauthorized' crossings by pedestrians and cyclists. Occasionally you see holes in the fence, enabling these unauthorized shortcuts from one side of Humlebakken to the other. The bicycle ride from the city centre along Humlebakken to Blåkildevej Community Centre, where I was scheduled to meet Dorit, is roughly 3,5 km, mostly uphill. With the exception of a section which crosses the motorway, there's very little interaction between the surroundings and the passers-by. You occasionally catch a glimpse of single-family homes and blocks of flats between the green vegetation, distorting the view. Halfway up Humlebakken the bicycle path ends and you can either go along an underpass and follow the maze of walkways leading you into Aalborg Øst, or you can follow Humlebakken, where big lorries pass you at 70 km an hour making for a rather unsettling experience from a bicyclist's perspective. Dorit had given me careful instructions on how to get to the community centre

Fig. 2: Humlebakken in Aalborg Øst

following the many walkways. Inevitably I did get lost and ended up where Budumvej meets Rørdalsvej, another major road leading traffic around Aalborg Øst. Again, somewhat confused about the outline of Aalborg Øst, I finally arrived to Blåkildevej and was greeted by Dorit who was busy helping out a group of women doing handicrafts. From Blåkildevej Community Centre we crossed through the block, caught Astrupstien (Astrup walkway) and started a walking tour around Aalborg Øst. I had finally and properly arrived at the suburban landscape which intrigued me so many times when we passed exit 25 on the motorway!

This is where my own story about Aalborg begins. A place which has unfolded itself again and again during visits, walks, observations, meetings and conversations with all the people I encountered during my research. This story would be so much different if it wasn't for these experiences. Along with maps, interviews, observations and reflections, a narrative about Aalborg Øst has emerged which is so much more than what the road sign to Humlebakken promised.

Research question

Aalborg Øst is a suburb to Aalborg, planned and developed in the 1960s and 70s according to modernist planning principles. Added a good deal of Scandinavian welfare ideology, the intentions were to ensure all citizens had equal access to quality housing and welfare facilities. A lot of the intentions were met, but in many respects the layout of the neighbourhood and the housing stock has gradually become outdated as the social and economic context in which these suburban development are embedded have changed. This is a challenge which is pertinent not only for Aalborg Øst, but for many European suburban housing estates developed during the heyday of modernist planning. These monofunctional neighbourhoods are typically geographically, socially, and economically isolated from the surrounding city and suffer from a mental stigma as well. (Kiib, 2004; Bech-Danielsen, 2008). How do we address these challenges in a sustainable way in order to attract newcomers and ensure a better quality of life for people living in suburban areas? This overall challenge is where my research project began. How do we update the suburb and make it more attractive for new as well as current residents? However, the notion of the suburb kept bothering me as I attempted to carve out the focus of my research. What kind of place is it? What is a place to begin with and who defines this? As we will see in a subsequent chapter, the suburb has been conceptualized and understood in many different ways and as current debates on "ghetto" policies show, the suburb remains a highly contested and politicized field. Coming from a planning background, I felt the weight of my profession's tradition for top-down, blueprint solutions and saw a need to explore a different approach to understanding the suburb which was aligned with process rather than output. Through this initial process of investigating what I was actually researching, I developed a path which took me in a somewhat different direction that initially anticipated.

When trying to come to terms with what actually constitutes place – in this instance the spatial, architectural, and sociological category and typology called the suburb – I had to combine methods and theories in new ways in order to examine the object. But a gnawing inconsistency was already entrenched within this first iteration. How do I investigate an object – the suburb – when a lot of the commotion stems from the idea of this categorization? Could the suburb be something more than just infrastructural and architectural typologies and socio-economic statistics? Does it even make sense to approach the suburb analytically as an island? From my visits to Aalborg Øst I clearly recognized the suburban landscape but I was missing a more practiced and lived perspective

on what the suburb might be and how it relates to the surrounding city. As Marling's study on urban songlines shows (Marling 2003), people's everyday lives are played out in many different arenas and I felt a need to include this perspective in the research.

From these initial deliberations, the next iteration was spurred. With the project brief came a second condition: methodologically I had to apply GPS tracking. The idea was to track a group of young residents from Aalborg Øst and investigate how they activate and engage with the urban environment. The suburb and GPS tracking were two elements which in the beginning didn't make for an obvious and comfortable match, and the GPS devices were approached with great caution and slight suspicion. They were fetched from the shelf – and returned again – a good few times before the penny dropped. What I was dealing with, I realized as I saw survey participants track their everyday lives with GPS devices, was a method that was much more than just a research technique. Granted, a GPS device is a tool, a technique, and a technology which works from a quantitative foundation: it collects positional data about a given object or subject. But it is more than that: it merges a very top-down approach to science with a very bottom-up account of lived experiences. It lets its user inscribe his or her own spaces and places with the body. What this suggests to me is that the method is performative, the GPS tracks created in this entanglement between hard science and soft bodies is something more-than. Within this more-than it is also implied that we look at the urban as something more than a static entity; that the urban is enacted through interactions between users, technologies, infrastructures, and material artifacts. Suddenly it made sense! The methodology allowed me to investigate the suburb not as an island, but as a practice and an assemblage.

The more-than is what acutely caught my attention and which in this context calls for an investigation, because it has implications and relevance for how we conceptualize the urban but also how we might practice urban planning. The method allows the citizen to speak with the feet, so to speak, and lets us follow how the city emerges through interactions and practices. Furthermore, the embodied and qualitative aspect and potential of GPS tracking remains largely unexplored, as the method is often applied for its quantitative properties.

Drawing up the research field

After my Eureka moment the research design soon fell into place. What happened was that the suburb became the empirical backdrop of the research project and GPS tracking became the focal point. In order to make this adjustment I also had to draw up a different theoretical landscape than initially anticipated. Coming from a background in social and urban geography and planning I had to expand my own theoretical and methodological repertoire in order to properly delve in to my research question: Looking at the interchanges between the urban, people and technologies called for an interdisciplinary approach. Having worked in planning practice for several years before commencing on my PhD studies, a more applied and interdisciplinary approach to my research seemed like a suitable strategy. Furthermore, being supervised by a sociologist and an architect naturally challenged my own background too.

My research position is therefore made up of a patchwork of research fields and methods and in the following I will line out the main research fields I draw on. The advantage of working interdisciplinary is that it allows me to investigate my thesis from different angles and hopefully tell a story which is a bit more true to mundane complexities that our everyday lives are made up of. The disadvantage being that it doesn't

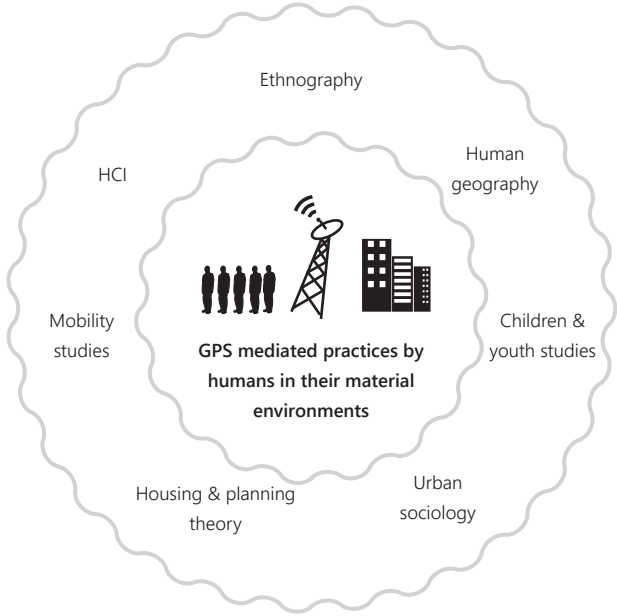
provide me- or the reader- with a check-list because the thesis doesn't stick to the practice of one research tradition. It is however important to highlight that there is an ontological and epistemological strand which runs throughout the thesis. In order to bring out the emergent and embodied aspects of my research I decided to draw on the relational thinking embedded in Actor- Network Theory and post phenomenology as outlined in chapter 3. Because GPS tracking is applied as a research technique as well as a research object it will be related both to the metatheoretical foundations of the research project as well as it will be employed as an actual research technique.

Human geography

Coming from a background in human geography this research field inevitably plays a part in the interdisciplinary field I work within. The interaction between humans and the multitude of environments we inhabit, appropriate and shape is by default the main perspective which forms my research. Mapping was an essential methodological element of the research process and I draw on debates and research in cartography and mapping when positioning my own research. I equally draw on a human geography tradition when investigating the participants' spatial practices in Aalborg Øst

HCI

I found one of the first cues for my research design at a workshop in 2010, which brought researchers from Human-Computer Interaction (HCI) and urban studies together. The research project is not positioned in HCI as such but draws on research from this field. I have found it particularly fruitful and inspiring to look at the diverse and often applied research within this field which investigates the interactions and exchanges between the urban, humans and technologies . The anthology "From social butterfly to engaged citizen" (de Waal, 2012) and Farman's "Mobile interface theory" (2012) are recent examples of research within this field which have an applied focus in an urban context. I furthermore draw on Don Ihde and postphenomenology to underpin these interactions metatheoretically.



Urban sociology
In order to circle in a theoretical landscape which in one way or the other works with a relational and embodied approach to how the urban is constituted, I had to look to urban sociology for sources. I draw on classical as well as contemporary urban theory. It was equally useful to look at urban sociology when mapping out space- and place paradigms in urban planning. Similarly I draw on Actor-Network which originates in sociology- but has been and continues to be employed in a vast array of contexts and research fields . The anthology "Urban assemblages. How actor network theory changes urban studies" (Farias,2009) investigates the urban as a multitude of intersecting and interacting hybrid systems. Equally Yaneva (2012) applies actor-network theory to architecture in theoretical as well as applied terms.

Mobility studies
Mobility lies at the core of the thesis and I draw on critical mobility studies as a way framing my research theoretically as well as methodologically. By default, mobility studies is stitched up by a number of different disciplines: media studies, sociology, ethnography, human geography to name a few. Main contributors to this field are researchers like Mimi Sheller, Tim Cresswell and John Urry. The emphasis on investigating movement as something more than just an instrumental issue lends itself well to the methodological focus of the thesis. This in turn allowed me to investigate the meanings and values inscribed and assigned to the urban environment by the participants.

Ethnography
In order to gain a more detailed insight into the participants' everyday practices I have applied ethnographic methods to my studies. The walk-along interview is the most prominent of the methods which I have used in order to capture the mobile practices of the participants. This method supplements the "silent" GPS tracks . Augoyard's (2007) work on spatial practices at a French housing estate has been significant in shaping this part of my research. Methodologically I equally on Ingold's (2008) and Kusenbach's (2003) work on walk-along interviews.

Housing- and planning theory
In order to frame the context of my research project- the functionalist suburb- I have drawn on housing- and planning theory . A lot has been said and written about these suburban developments. The aim of this part of the research project is to draw up the historical context and circle in how space and place over time has been treated in this particular planning discourse. Jane Jacobs criticism of modernist planning principles was an influential voice of its time and in a Danish context I draw on Bech- Danielsen's and Birgitte Mazanti's work.

Children and youth studies
Teenagers are the primary target group of the research project. I have therefore looked to children and youth studies to find out how teens are dealt with in an urban planning context. Teenagers are often overlooked in urban planning despite their often active engagement in the urban environment. Kevin Lynch' "Growing up in cities" (1977) is a key reading in this research field which is made up of many disciplines such as ethnography, human geography, environmental psychology, urban planning and sociology to name a few.

Research question:

The dissertation seeks to investigate the interplay between user, place, and GPS technologies: How can we use these entanglements to generate knowledge about the (sub)urban on a theoretical as well as a practical level and what does GPS tracking afford the knowledge we create in this process?

Outline of the thesis

Chapter One
'Introduction' draws up the iterations and deliberations that led up to the present research design.

Chapter two
'The suburb: from welfare city to network city'. This chapter draws up the empirical backdrop of the dissertation. Notions of space and place embedded in suburban planning discourses are traced from the birth of the suburb in the 1960s to today's segregation debates. This exercise will be paired with a review of place and planning theory which will help me draw up and delimit the research field I want to investigate. The chapter concludes by introducing an understanding of place as dynamic, emergent, and mobile which will
be unpacked in the following chapters.

Chapter three
'An ontology of enactment and embodiment' maps the epistemological and ontological framework of the dissertation. The framework is assembled from a series of epistemological standpoints, drawing on Actor-Network Theory and post-phenomenology. Within these positions I will pick useful tools which I will use in the impending investigation.

Chapter four
'Urban assemblages' unpacks and operationalises the metatheoretical framework introduced in chapter 5. How has ANT and post-phenomenology been applied in urban studies? By introducing a series of theoretical writings the chapter establishes the kaleidoscopic optic from which the urban will be viewed and analysed in the dissertation.

Chapter five
'Mobile methods' introduces the mobile research techniques employed in investigation of the suburb. When we apply a relational, emergent optic to the urban we also need methods that capture how the urban is constituted through practice and movement. The chapter is structured around two methodological loops: GPS tracking and walk-along interviews.

Chapter six
'Young people in planning' introduces the survey participants – teenagers – and how they are represented and dealt with in planning practice and theory.

Chapter seven
'From maps to mapping' looks at what a map is in epistemological terms. The GPS maps form an essential part of the research project – it is a method as well as the research object. It is therefore important to establish an understanding of what maps are and do.

Chapter eight
'On track – drawing up Aalborg Øst' looks at the research question: how can we use the entanglements among GPS technology, user, and place to generate knowledge about the (sub) urban? The chapter focuses on GPS tracking and how Aalborg Øst was assembled using this method.

Chapter nine
'On talk – Aalborg Øst step by step' unfolds the walk-along interviews and adds a qualitative and affective layer to the GPS tracks. Drawing on Kusenbach I look at different themes which emerged during the interviews.

Chapter ten
'On what GPS tracking does' merges the empirical findings and metatheoretical deliberations in a synthesis. Drawing on the empirical work presented in the two previous chapters, the initial query is addressed: what is the more-than generated in the GPS map and what does it afford in an investigation of the urban?

Chapter eleven
'Closings' brings together the findings of the research project and suggest further research potentials.

THE SUBURB: FROM WELFARE CITY TO NETWORK CITY

02

The suburb: From welfare city to network city

Introduction

In this chapter I draw up the context of the research project: the suburb. As we shall see in the following suburbia is a contested place, seen by many as a place without authenticity, mentally and geographically far from the historical city cores. Yet to many, the suburb is a very familiar place. Roughly 75 percent of the Danish housing stock is built after the Second World War, and of which the vast majority can be categorized as suburban (Tietjen 2010). In other words, a lot of us live, or grew up, in suburban areas. Maybe because of the everydayness associated with the suburb, it is often referred to as something unglamorous and monotonous, and we tend to either quietly love it or outspokenly hate it. This, of course, is an overly caricatured diagnosis of the suburb and to dissect the meaning of 'the suburban' would require a whole dissertation in its own right. An example of such research is Mette Mechlenborg's PhD dissertation from 2012 "Rundt om Webergrillen. En geokritisk læsning af parcelhusforstaden som sted i aktuel dansk kunst og litteratur." By investigating representations of the suburban in art and literature Mechlenborg seeks to capture an understanding of the suburb as a place, which looks beyond a binary representation as either good or bad.

The many issues and conflicts embedded in the suburban were also reflected in the difficulties I encountered framing the concept for my own research as outlined in the introduction. What was I dealing with exactly? Was it functionalist planning, was it social housing policies, was it social segregation, was it the Danish welfare city, was it community studies? While I gradually became more interested in looking at the methodological aspects of the research project, the suburb moved further towards the background and thus became the empirical backdrop rather than the focus of the research project. In that sense the suburb became the context of the research, which in principle could have been carried out in any urban setting –one of the key words tying the research together is therefore 'place' rather than 'suburb'.

In order to contextualize the research I have therefore decided to undertake an investigation of how the notion of place has been dealt with in different planning discourses related to 'the suburban'. It is of course debatable when the suburb was 'invented' and thus where this investigation should take its starting point. While Ebenezer Howard's "Garden City" (1965) was a hugely influential contribution to the development of the suburb, I start my investigation by looking at the modernist planning tradition and its 'sister' typology: the Danish welfare city which emerged in the post-war years. I use this mapping exercise to circle in and further operationalize the understanding of place, which I will employ throughout the dissertation. Since commencing on this research project in 2010 the Danish suburb has had a considerable renaissance and an increased interest, and acknowledgement of its cultural and architectural heritage is developing.

After locating and delimitating the suburban in a historical and geographical context, we move on to looking at the critiques which already emerged in the 1960s and still persist. What is of particular interest for this research is to come to grips with how place has been dealt with within these critiques. This exercise serves to bring relevant place-theory into play and thus serves to help operationalize an understanding of place which I will further develop in chapter four.

Modernism and the Danish welfare city

In this section I locate the Danish welfare city in a historical context and unpack the ideas and values embedded in the many suburban developments which sprung up in post-war

Denmark. Even if the link between modernism and the Danish welfare city is not dead straight, it is still relevant to briefly draw up the broader context in which it was born.

Modernism remains one of the most contested periods in the history of urban planning and architecture; (in)famously known as a time when architects and planners forcefully put their expertise forward in order to engineer better cities for the workers of the overcrowded inner-cities. While the legacy of the modernist planning ideals are under continuous scrutiny, it is worth keeping in mind the values and vision of this era which was to create better and more egalitarian cities (Kjærsdam, 2006:116). Either way we look at it, modernism has had an inescapable impact on the physical and social layout of our cities and it is therefore important to outline the general ideas and values underlying this movement in order to understand why our cities look the way they do.

The dissemination of the modernist planning principles in the post-war years were in many ways a direct continuation of the manifestation of the modern city which set off roughly a hundred year before, spurred on by the industrial revolution (Kvorning in Hansen, Bech-Danielsen 2001: 65; Bech-Danielsen 2004:10). The development of the modern city is dealt with by George Simmel, and his writings provide a valuable insight into the urban condition around the turn of the nineteenth century. Industrialization spurred an intensified urbanization, and people were pouring into the cities from rural, traditional communities in search of a new and better life. Following Simmel's observations, ties with religion and socially oppressive community bonds were cut and the city-dweller transformed himself into an emancipated individual – his identity was no longer specified by the cultural and religious community he was born into. He had to reinvent his social identity from scratch, yet this condition also meant he was a stranger among strangers (Bech-Danielsen 2004:19). The massive increase in the urban population equally put a severe strain on the infrastructure and physical environment of the cities. There was simply a shortage of proper housing and infrastructures to accommodate the many newcomers, resulting in cramped living conditions. As a reaction to the alienation, stress, and un-hygienic conditions of urban life, early suburban movements had started already in the early twentieth century. Ebenezer Howard's "Garden City" (1965) is a classic and central example of the movement back to more rural –suburban – surroundings in the search of fresh air and better living conditions for the city dweller.

Out of modernity sprung modernism, which developed as an independent movement within architecture and planning in the inter-war years, and was also referred to as functionalism. A full account of the formation of the modernist movement would be too extensive for this context. Modernism, in very broad terms, was about creating a better society – hardly a controversial programme. It was the means with which society should progress, which were new and perceived by some as controversial. A central mantra for the modernist movement was liberation from tradition. Old was to be replaced by new in an on-going, linear progression, driven by reason and logic. The slate was to be wiped clean of history and constraining traditions. The context in which this development happened was in part driven by factors just outlined: the modern man had been set free of religious bonds and rationality had taken its place as a means to drive individual emancipation and progress. Industrialization was the technological and economic engine driving modernisation. As a result of this development, the cities had 'burst at the seams' due to the massive urbanization that took place, and the city became the place where the progressive as well as the oppressive sides of modernity were played out. In turn, it increasingly became the state, rather than the church and

civil society, which assumed the role of ensuring the well-being of its citizens (Bech-Danielsen 2004:16)-something we will look at shortly.

In tandem with these broader societal developments, Le Corbusier became one of the key figures in pushing a new architectural language based on a vision of scientific rationality. Architecture and – as we shall soon see, planning – became a means to evolve a better and more equal society. Architecture was no longer just tied in with aesthetics, the responsibility of ensuring the right physical framework for societal and individual advancement became a key element in this new architectural language (Bech-Danielsen 2004: 37). Thus, the aesthetics of modernism were reflected in the familiar modernist slogan 'Form follows Function'. Modernist planning is equally characterized by a strong faith in professional expertise and scientific rationality planning as a means to move society forward; geared towards a homogenous public:

"All men have the same organism, the same function. All men have the same needs" (le Corbusier, 1933/1986)

The quote reflects the emancipated modern man, who can be summarized in scientific terms regardless of his cultural and social background. The same scientific approach is echoed in the spatial expression of the modernist plan, characterized by functional segregation: housing, leisure, work, industry, shopping, etc. are assigned a designated place in a carefully calculated master plan. This spatial imprint lasts to this day; something which many urban regeneration projects have sought to overcome by replacing monofunctionality with multifunctionality; a negation we will look at in a later section. What has particularly been criticized is exactly the blindness to diversity, unequal power relations, the political and historical context in which planning is operating, and its blind faith in expert knowledge over local knowledge and scientific, quantitative methods over more experimental and qualitative methods:

"In its fullest development, the Rational Model had neither subject nor object. It ignored the nature of the agents who carried out planning and was indifferent to the object of their efforts [i.e., the built environment]."(Beauregard 1987:367)

Beauregard's take on modernist planning is typical for the legacy modernism has left. As we shall see in subsequent sections, urban planning in many ways still evolves from an on-going critique, opposition, and dialogue with the modernist planning tradition (Bech-Danielsen 2004:9). As mentioned earlier, the pessimistic critiques of modernist planning need to be diversified as it emerged in a specific historical context. Furthermore the efforts did make a difference to many people and their living conditions – in other words, some things worked and some didn't. In the following section we will take a look at the welfare city and how the modernist vision of a more equal society were adapted in a Danish context.

The Danish welfare city

In the post-war years large-scale suburban development started to take its shape in Denmark as well as in the rest of Europe. This expansion is closely tied in with the modernist planning principles unpacked in the previous section. The broader development of the welfare state is, however, crucial to include in order to understand the suburbanization which took place in Denmark in the post-war years.

As Bech-Danielsen notes, modernism went hand-in-hand with socialism and a goal to develop a more egalitarian society (Bech-Danielsen 2004:58-62). While the industrial revolution overturned an oppressive feudal society, other oppressive mechanisms set in when severe poverty and inequality surfaced in the cities. The challenge to address these

issues and to ensure social and material welfare was left to the state, and in a Danish context the development of the welfare state became closely related to the Social democratic movement, initiated by comprehensive social reforms in 1933.

The welfare state, as it took shape in the post-war years, was a large-scale project which sought to look after its citizens from cradle to grave in almost all facets of life. Thus, the aim was to provide equal access to housing, education, culture, health, and job opportunities – as a consequence many tasks previously looked after by women, such as care of children and elderly, were outsourced to state-run facilities. The ambition to provide these welfare services to all citizens inevitably had a knock-on effect on the layout of urban structure in Denmark as well as in many other European countries. It required massive investments in infrastructures, housing, and welfare service facilities such as nurseries and educational institutions. The development of these infrastructures was in part founded in modernist planning principles, but also had a strong emphasis on the communal, an aspect we will look at shortly.

Architecture and urban planning soon became an important vehicle for providing access to better living conditions. Not only was housing a large part of the welfare package, the whole layout of the city was an important part of framing the good life in the welfare state. One important aspect guiding the way the welfare city took shape was the emphasis on healthy living conditions – as Bech-Danielsen notes, 'green became the modernist's metaphor for wellbeing' (Bech-Danielsen 2004: 99). In order to free the city-dweller of unhealthy, cramped living conditions, planners and architects created spacious flats at the outskirt of the cities in airy, green surroundings with plenty of room for recreational uses after work. Traffic was consistently segregated and networks of paths for bicyclists and pedestrians were spun. When looking at the layout of such infrastructures it is clear that they were developed strictly for recreational movement within the neighbourhood. The bicycle was not seen as an appropriate vehicle for commuting to and from work. Instead, the new suburban developments were built around external transport corridors geared towards automobilism, although in Copenhagen the famous Finger-plan used the S-train lines to structure the suburban development of the greater metropolitan area.

One very distinctive feature of the Scandinavian take on modernism was the emphasis on neighbourhood and community planning. This inspiration came from Lewis Mumford as well as Ebenezer Howard's Garden City-movement (Mazanti 2002:78 ; Gaardmand 1993:45-46). The Scandinavian welfare city sought to create neighbourhood units of manageable sizes within the greater urban structures. The typology is familiar: we recognize them from suburban developments around Denmark, such as Albertslund and Tingbjerg, neighbourhoods structured around a local shopping centre, a library, nursery, and a school. Tingbjerg is, following architect Steen Eiler Rasmussens' vision, split into smaller neighbourhood units in order to ensure social interaction between a diverse mix of inhabitants:

"The atmosphere of the neighbourhood [Tingbjerg] should differ distinctively from the dull affluent neighbourhoods and the ruffians domineering other suburban areas" (Eiler Rasmussen in Gaardmand, 1993:50, own translation).

As a side remark; the intentions of the Tingbjerg plan taken into consideration, it is ironic that this neighbourhood has become one of the most notorious of the post-war suburban developments. Planned in a similar context, Mazanti describes 'Store Hus' in Avedøre as another attempt to create a collective machine for living, paraphrasing le Corbusier. Store

Huswas designed for singles and young couples and all 480 flats were exactly 69,3 m2 with no kitchen! Instead, Store Hus had a shared cafeteria over which all residents shared the financial responsibility as a means to strengthen the sense of community among residents. The idea of communal facilities such as community halls is still a prominent feature of the Danish social housing as a means to strengthen local community bonds.

With the distinctively Scandinavian emphasis on the communal, the Danish welfare city expanded extensively in the 1960s. The first wave of suburbanisation was predominantly driven by the social housing sector, providing spacious, modern, and 'democratic' accommodation for the working class. The delivery of these basic welfare services were seen as instrumental in realizing the ideals of modernisation and 'there was a strong belief that through physical improvement, social improvements could equally be created' (Mazanti 2002:84, own translation). As we will see in a subsequent section, the modernist movement has paradoxically been criticized, then as well as now, for neglecting the human scale, even if the ideals and visions embedded in modernism were centred on setting the very same human free. In an interview with Weekendavisen (#23, 8th of June, 2012), Danish architect Jan Gehl, one of the first and most persistent critics of modernism, says:

"Far too many architects plan cities and buildings that look great from an aerial view (...) nobody really cared about how people actually experience cities. We knew more about mountain gorillas and their habitat."

This quote would suggest that something about the scale embedded in the modernist projects was problematic, and somehow the strong belief in rational-scientific methods lost sight of the object it was dealing with: human beings. Even if the intentions were good – and many parts of the welfare-project did succeed – it was soon clear that everyday life simply can't be reduced to scientific formulas. Already in the 1960s and 1970s the public started voting with their feet and the great suburban housing developments didn't become the emancipating machines for living for which they were intended. Instead a general increase in the economic welfare made families choose the suburban single-dwelling house which sprung up in the 1960s and onwards, and the social housing developments increasingly became a place to move if there was nowhere else to go. The suburb still struggles with a flawed reputation, especially the suburban social housing developments that are often seen as problem-ridden concrete ghettos, whereas the suburban single-dwelling house is seen as the materialisation of everything unappealing about middle-class living; socially as well as aesthetically it is (by some) perceived as dull, predictable, and lowbrow. Over the years a number of critiques have been made of the suburb, and why it has failed. Whether the suburb has failed or not is not the focus of this dissertation. I am, however, interested in looking at how place has been represented within different planning discourses and critiques from the emergence of the suburb in the post-war years and up until today in order to understand the 'object' of what we are dealing with, but also to propose a new way of representing the suburb as a place.

In the following we will look at the critiques of the suburb and how place is represented in those critiques. The enquiry might not be exhaustive but the themes below represent prominent voices which have shaped debates about the suburb: the suburb as community, the suburb as non-place, the suburb as marginalization.

Critiques of the suburb

Loss of community

In this section we look at how the idea of community has been dealt with in the critiques of

the suburb. Paradoxically the loss of community has been one of the main criticisms of modernist planning, while at the same time it holds a prominent position in the Danish welfare city, even today. It therefore begs the question, "what is meant by community and how is that related to place"?

With her book "Life and Death of Great American Cities" (1961), Jane Jacobs articulated a now classic attack on the modernist planning princi ples that swept across the western hemisphere at that time. The book very bluntly opens with the following words:

"This book is an attack on the current city planning and rebuilding. ... It is an attack rather, on the principles and aims that have shaped the modern, orthodox city planning and rebuilding." (1961:3)

As a resident of New York, Jacobs saw the impact of Robert Moses' master plans carried out in practice. Moses in many ways carries the legacy of the quintessential rational scientific planner, who, with no sentimentality, cut many of New York's neighbourhoods into bits when he rolled out his grand infrastructural projects.

Jacob's critique stemmed from a deep discontent with how planners dealt with the existing urban and social fabric, forcing a tabula rasa vision upon local communities with more or less brutal methods. The critique is closely tied in with how space and place were represented in the modernist plan. Recalling the quote by Jan Gehl in the previous section, modernist planning was very much concerned with the aerial perspective; space was conceived as a Cartesian coordinate defined by an X-, Y-, and Z-axis. Within this container, people, infrastructures, and buildings could be shuffled around like a Lego landscape. Drawing on Lefebvre's spatial trialectics (Lefebvre 1991; Merrifield 1993) the modernist understanding of space was based on abstraction, but importantly there was a direct correspondence between reality and representation. Therefore the modernists' master plans were perfectly legitimate because they reflected this 1:1 relationship at which the planner had arrived through rational and logical enquiry.

In Cartesian space, place, as an assemblage of experience, emotion, and affect, became redundant, and accordingly a certain notion of community became endangered. In order to come closer to how 'place' was understood – and valued – by the critics of modernist planning, we therefore dwell a bit more on Jacobs' attack on city planning. Jacobs' understanding of community and its relation to place is closely related to her emphasis on the importance of the street as a public space. With the slogan "We must kill the street", le Corbusier had initiated a battle against the dirty and labyrinth-like streets of European cities, and this war on the street is echoed in many modernist planning projects. The street was to be made a rational network, facilitating frictionless movements in the city. Jacobs, on the other hand, saw the street not just as a circulation system, but more importantly as a vital element in ensuring the social functioning of the city. The street on one hand helps realize the modern city, consisting of strangers who coexist amongst strangers. Everybody's eyes on the streets become an important DIY-surveillance tool, because they ensure a peaceful and trustful coexistence between strangers. Jacobs objects to the scale of modernist housing developments exactly because they turn the eyes away from the street and thus undermine a collective feeling of safety and responsibility among the city dwellers. Furthermore, the street is an important catalyst for social interaction and civic education (Jacobs 1961), what Putnam would probably term 'social capital.'

Jacobs thus emphasizes the importance of the street as a way of enabling a thriving community at a neighbourhood level. However, Jacobs'

understanding of a community is, interestingly, in opposition to the community ideals embedded in many modernist plans, consisting of the self-sufficient, introverted neighbourhood units like the ones we saw in Avedøre and Tingbjerg:

"Lately a few planners, notably Reginald Isaacs of Harvard, have daringly begun to question whether the conception of neighbourhood in big cities has any meaning at all. Isaacs points out that city people are mobile. They can do and pick and choose from the entire city (and beyond) (...) City people, says Isaacs, are not stuck with the provincialism of a neighbourhood and why should they be?" (1961:126)

Jacobs outlines a much more fluid and organic understanding of how cities function and become through the social and economic interaction and mobility of their inhabitants:

"Successful street neighbourhoods, in short, are not discrete units. They are physical, social and economic continuities – small scale to be sure, but small scale in the sense that the lengths of the fibres making up a rope are small scale" (1961:131)

The notion of community is thus a fluid concept rather than a discrete geographical unit, and Jacobs thus shows a sensibility towards the complexity of the social fabric of the city (even if her representation of this complexity and diversity is remarkably devoid of conflict and friction). The street, however, remains an important prerequisite for enabling civic life in the city and Jacobs' understanding of community is tied in with the vitality of public space.

Since the 1990s, Danish neighbourhood regeneration projects have had a strong emphasis on the community as driver for development, fused with the concept of community as geographical propinquity (Pløger 1999). The popular discourse has introduced these ideals as a corrective to what has been perceived as ill-functioning neighbourhoods failing to show sufficient levels of social cohesion and place-identity (Mazanti, Pløger 2003:313). The overlap of a strong emphasis on community and geographical propinquity has, however, led to many regeneration projects losing sight of the wider urban context in which they operate, an aspect which Jacobs advocates in her conception of community. A recent example of such introverted neighbourhood planning is reflected in the tool Naboskab developed by the Danish housing association KAB. The tool helps measure the level of social capital among residents in deprived housing estates, following the basic premise that there exists a correspondence between local levels of social capital and the social and economic functionality of a housing estate. In other words, the tool presumes a direct relationship between the neighbourhood as a discrete unit and a sense of community bond. If this relationship is weak, the neighbourhood is weak and vice-versa. It is beyond the scope of this dissertation to engage in the broader discussion of social capital and neighbourhood regeneration. The point, however, is to highlight that there is a legacy of community planning within modernist planning, which draws on an understanding of place and community as geographically bounded. The question remains whether this conception is fruitful when working with the suburban. Drawing on Jacobs' critique of the planned communities promoted by modernist planning, the question is whether a more dynamic understanding of place is required when engaging with the notion of community in regeneration projects.

Non-place

Another prominent critique of the suburb and modernist planning is centered around a discourse on the authenticity of place. These critiques stem partly from human geographers such as ard Relph, Yi-Fu Tuan, and David Seamon, and later, French anthropologist Marc Augé who with his critique of the transitory

spaces of supermodernity coined the term non-place. Even if the critiques presented below are not directly related to the suburban they echo an understanding of how the suburban can be perceived as a place or a non-place. The debate on what constitutes a place vs. a non-place is long and complex and will not be unpacked extensively here. In particular, Augé's (1995) understanding of the transitory non-place is controversial and has been challenged by critical mobility research, a critique we shall look at in chapter 4. I will, however, counterbalance the debate by introducing opponents to the non-place discourse.

The notion of place was revived in the 1970s when human geographers, with inspiration from phenomenology, proposed a new for place in the social and spatial sciences. The wave of phenomenologically inspired writings on place can be seen as a reaction to the eradication of place in logical positivism. As Cresswell notes:

"Since the particular had no place in the hierarchy of values developed in the post-enlightenment world studies of place were often relegated to 'mere description' while space was given the role of developing scientific law-like generalizations. In order to make this work people had to be removed from the scene. Space was not embodied but empty." (Cresswell 2004:19)

With the professional eagerness to put the city on a formula, people and their subjective experiences of the environment had been lost, or so was the critique. Cartesian space remained dominant within planning thinking and practice and the return to place within human geography was therefore a quest to reinsert place 'as an idea, concept and way of being in the world' (Cresswell 2004:20) and this reading is relevant to how we might understand the suburban as a place. Edward Relph's" Place and Placelessness" (1976) is a proposal of how 'its [place] order must be derived from significant experience and not from arbitrary abstractions and concepts as represented on maps and plans.' In other words, place is not a geographical reference point; scale is not the determining factor for how we understand place. Instead it is related to the intensity of how a place is experienced, drawing on the phenomenological inspirations. Places are at the center of how we experience the world; they are about intentions and experiences projected on to a particular setting consisting of real activities, people, and objects; in other words, a place is not an abstraction but an experience.

In opposition to place is placelessness. In this negation is implied that something is threatening the authenticity of place. This something is the geography of modernism, driven by experts and their abstract universalism, which creates generic landscapes deprived of the sensory, embodied, and particular experience. A similar critique is proposed by architect Christian Norberg-Schultz (1980) who also drew heavily on phenomenology in his conceptualization of place. Norberg-Schultz's approach was existential: place is no longer just an aesthetic concern, places have to be meaningful and bring the alienated, modern man back to his roots.
With his book "Non-places. An introduction to supermodernity "(1995), Marc Augé coined the term non-place. Even if Augé's non-places are related to what he calls supermodernity, the term still echoes the critiques outlined above of the loss of place in modernism. Augé defines the anthropological place as a place textured with history, memory, and identity. In opposition to the anthropological place, we find the non-place:

"... A space that cannot be identified as relational, or historical, or concerned with identity will be a non-place (...) Place and non-place are rather like opposed polarities: the first is never completely erased, the second never totally completed; they are like palimpsests on which

the scrambled game of identity and relations are ceaselessly rewritten. But non-places are the real measure of our time; one that could be quantified (...) by totaling all the air, rail and motorway routes, the mobile cabins called 'means of transport' (...) the airports and railways stations, hotel chains, leisure parks, large retail outlets, and finally the complex skein of cable and wireless networks that mobilize extraterrestrial space for the purpose of a communication so peculiar that it often puts the individual in contact with another image of self." (1995:77)

Augé draws on a binary analysis of what constitutes place as opposed to a non-place (p. 86). Non-places are particularly defined by the transitory, and, in Augé's view, two-dimensional spaces such as airports, shopping malls, motorways, and even housing estates. A non-place is devoid of ambiguity and, implicitly, also authenticity. Augé´s definition of the mobile is, however, somewhat lacking of a sensibility towards the meanings of mobility – something we will look at in chapter 4. Another feature of Augé's non-place is its generic and thus anonymous character, which is directly linked to a popular representation of the suburban as a dull dormitory and monotonous place as opposed to the historical city core which had a renaissance as a hotbed of authenticity from the 1990s and onwards.

Thus from the critique voiced in the 1970s of the tyranny of Cartesian space and Augé's non-places is a direct link to an understanding of suburban developments as devoid of proper place qualities. The modernist suburb was born, seen from the perspective introduced in this chapter, as an abstract monstrosity without history and identity, and in some eyes has remained the essence of placelessness. Some have, however, voiced an alternative to this binary representation of the suburb as a non-place. As we will look at in chapter 4, French sociologist Jean-Francois Augoyard (2007), despite his critical stance on modernist planning, undertook careful ethnographic investigations of how the suburb actually was perceived and practiced as a place by its residents. Furthermore, it has become more widely acknowledged that while the modernist planners deliberately sought to wipe the slate clean and rid the suburb of any historical ties, the suburb, now fifty years after its birth, actually represents a significant contribution to cultural heritage of the welfare city (Bøggild, Yde 2011). Secondly, fifty years of a multitude of lived lives in suburbia makes for a rich source of how the history of the suburb is shaped by many different voices and experiences. These stories, however, often remain silent, as Danish sociologist Henrik Dahl argues in his book "Den usynlige verden" (2008). In Dahl's view, the suburb has become a social and cultural pariah that we are taught to disregard. Despite the fact that the majority of the Danish population in one form or the other lives or has been brought up in the suburb. David Kolb (2008) equally insists that the place qualities of the suburban are far more complex than popularly defined. Furthermore, he argues that it makes no sense to always compare and contrast the qualities of the historical city core to the suburban sprawl and in a normative and hierarchical fashion decide on which place wins on authenticity:

"There is no notion of nonplace that applies to the sort of thing that many others call nonplaces: suburban strips, malls, sprawling subdivisions, theme parks and so on. As I identify them, those are fully places, though their social norms may define oversimplified or oppressive lives. Malls and suburban strips are as real places as are cozy villages or the Piazza San Marco. They may not be as complex or thick, but to call theme-parks nonplaces blunts the critical mind just when it is needed most. We should rather question what kind of places they are and how they can be brought to improve on their own possibilities." (2008:46)

The questions raised by Kolb in the above are important issues related to understanding and conceptualizing the suburban. This challenge will be further explored from a theoretical perspective in chapter 4 when I operationalize an understanding of place – and thus the suburb – which draws on a relational and networked understanding of how places emerge. This might be a way of circumventing a conceptualization of the suburb as a geographical entity, and instead engage with the urban as a dynamic, interwoven field of networks and mobility.

The suburb as marginalization

Finally, we take a brief look at the planning discourse which I have termed 'the suburb as marginalization.' This discourse is based on the assumption that the modernist suburban housing estate did not deliver as anticipated – in other words, it failed. This discourse is in part politically driven, a turn which in itself calls for a deeper analytical investigation. In this context I will only briefly outline the sequence of events and show how these political programs have affected the way planners conceptualize the suburban housing estate as a place.

As a part of the government's "Strategy against ghettoization"(Regeringen 2004), the committee Programbestyrelsen was appointed to evaluate the implementation of the strategy in a number of designated marginalized housing estates. The committee presented their recommendations for improving these types of housing estates in 2004 (Programbestyrelsen 2004). In 2010, the Danish government further issued their strategy for marginalized housing estates, named "Ghettoen tilbage til Samfundet-et opgør med parallelsamfund i Danmark" (Regeringen 2010). The above strategies aim to break the social and physical isolation from which many suburban housing estates suffer. As mentioned previously, the agenda driving this strategy is mainly political and is embedded in a broader debate on immigration and integration policies in Denmark at the turn of the millennium. This renewed focus on the suburban housing estate as problematic has, however, led to resurgence in the role of bricks and mortar in social housing regeneration.

The anthology "Arkitektur der forandrer- fra ghetto til velfungerende byområde" (Niels Bjørn 2008) is symptomatic of this development. The basic premise for the anthology, put forward by editors Annette Holek and Niels Bjørn, is that there is a correlation between the modernist architectural program and an accumulation of social and economic deprivation, what the anthology terms 'ghettoisation' (2008:4). Where the focus in Danish regeneration programs has been on social aspects, Holek and Bjørn propose drawing on international cases, strengthening the focus on physical regeneration. So where critics of modernist planning for decades sought to disassociate themselves from spatial determinism – the idea that a strong architectural program will solve social problems and improve people's lives – this agenda has now been reintroduced:

"The conclusion drawn from international case studies shows that architecture makes a difference in marginalized housing estates. Physical changes can aid the revival of a neighbourhood. And even if it is important to emphasize that physical changes need to be supplemented by social action, it is equally important to stress that social regeneration only has a small impact if it is not supported by physical regeneration. In other words: We need to alter the bricks and mortar in order to alter the life quality in marginalized housing estates. But if we keep that in mind, things will change." (Bjørn 2008:4, own translation)

Holek and Bjørn propose a bold agenda, which seeks inspiration from regeneration projects such as Bijlmermeer in Holland where demolition-strategies have renewed the physical fabric in order to renew the social fabric of a neighbourhood (2008:166). The same strategy has been proposed in Gellerup, Århus, which has caused local opposition as residents saw their homes being threatened by demolition plans (Politiken, 7. February, 2010). The marginaliza-

tion discourse, which aims to dispel social ills through architecture, is in many ways returning to the same conceptualization of space which modernism swore by: space is perceived as a container where we can allocate infrastructures and buildings rationally, as a means to create the right framework for the good life. Thus, history and social ills can be rebooted by literally wiping the slate clean, by demolishing and reworking the built environment of a neighbourhood. While being embedded in a different set of values the marginalization discourses thus imitate the tabula rasa strategy so forcefully endorsed by modernism.

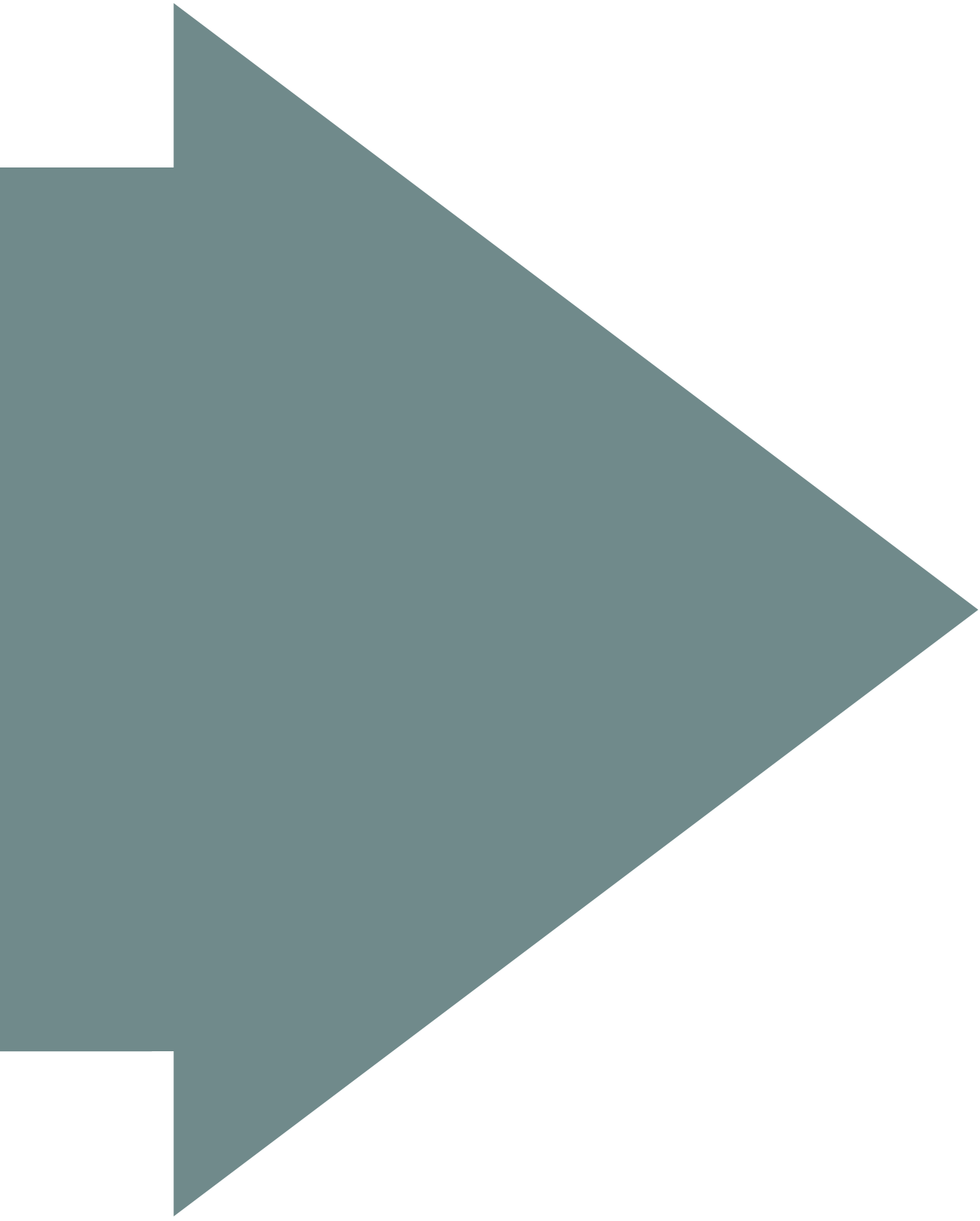
This approach to neighbourhood planning is less sensible for the understanding of the suburban housing estate as embodied place – a home which is made of a much more complex texture than just bricks and mortar; a critique which is reflected in more place-oriented regeneration projects such as the Hoogvliet neighbourhood in the Rotterdam, where the Welcome in My Backyard-project (WiMBY) sought to activate location-specific resources in regenerating the neighbourhood (Provoost, Pronkhorst 2007). This narrative approach was equally employed in the project Kulturarv 2650, which sought to capture and communicate the cultural heritage of the Copenhagen suburb Hvidovre; a typical example of the welfare city (Hausenberg 2009).

Fig 3: Welcome in My Backyard-project (WiMBY) in the Hoogvliet neighbourhood in the Rotterdam

Summary

In the above I have presented the wider context of the research project: the Danish welfare city and how it was nestled within a broader context of modernist planning and three examples of how 'place' have been conceptualized in different critiques and planning discourse related to the suburban. The first was termed "Loss of community" and discussed the notion of community and whether this should be defined as something place-bound or more networked. Accordingly, the operationalization of community has an impact on how the neighbourhood, and thus place, is conceptualized. Secondly, I looked at the suburb as a non-place, a critique put forward by human geographers and architects in the 1970s who bemoaned the loss of place in modernist planning and thus sought to advocate a phenomenologically inspired understanding of place. The same critique was put forward by Marc Augé, albeit in a different context. The term non-place has, however, had a lasting impact on how the suburb is understood, and it remains a conflict point in debates on how to deal with the suburban both in popular discourse as well as in a planning context. Finally, I looked at the suburb as marginalization. This is a discourse which has emerged within the last decade and reinserts the tabula rasa vision of modernism and puts a strong emphasis on architecture as a mean to improve social ills of marginalized suburban housing estates.

While all three conceptualizations of place emphasize the suburban as a discrete unit to varying degrees, a dynamic and networked understanding of place is introduced in chapter 4. The rationale behind this is that a conceptualization of place which begins with mobility and everyday uses might capture a different picture of how the suburb is shaped as a lived place and how it dynamically shapes the surrounding city.



AN ONTOLOGY OF ENACTMENT AND EMBODIMENT

03

An ontology of enactment and embodiment

Introduction

This chapter introduces the epistemological and ontological inspirations which I draw on in this dissertation. Different positions are unpacked and controversies and similarities are drawn up within the positions. As outlined in the introduction to the dissertation, two elements hold a central position in the dissertation. One is the GPS methodology which is intriguing because it holds the potential to merge hard data with soft bodies; it merges scientific "fact" with the sensuous and the embodied. Another important aspect is the emergent nature of the urban which we will seek to investigate using GPS technologies. In order to understand and theorize these aspects, the main aim of this chapter is to bridge two theoretical strands: Actor-Network Theory and post-phenomenology. While the philosophical loci and mutual disagreements in both theoretical strands are worthy of a dissertation, I will draw on them in a pragmatic and applied manner. The main purpose of bringing ANT and post-phenomenology into play is to help me articulate an analytical framework within which I can handle my research questions. It is, however, important to remain aware of the conflicting elements which are embedded in 'marrying' ANT and a post-phenomenological approach.

Therefore, the aim of my efforts in this chapter is to identify and operationalize some of the core ideas and agendas outlined in ANT and post-phenomenology in order to make them applicable when investigating the suburban using GPS technology. In the following chapter, 'Urban Aasemblages', we will see how an interdisciplinary field is working with these conceptions. In other words, it is an exercise of picking and mixing the right tools with which we can assemble our realities, rather than an elaborate exploration of the meta-theoretical foundations of our tools. The hope is that the empirical emphasis and explorations of the dissertation remain true to the "hearts" of the ontological agendas, and therefore make up for the lack of attention paid to a more detailed, meta-theoretical debate. After all, as Latour urges us to remember, ANT is about being empirical; it is a method rather than a theory (Latour 1999:99)

Actor-Network Theory

I start out by looking at Actor-Network Theory (ANT), often associated with French sociologist Bruno Latour. My first encounter with Actor-Network Theory and its ensemble of philosophers and thinkers was somewhat intimidating. The ontological programme appeared to be an all-encompassing and somewhat impenetrable all or nothing package. As I have become more acquainted with the broader field of Science and Technology Studies (STS) with which ANT is related, I realize that it is feasible to sample ideas and concepts from ANT, while still maintaining a sensitivity to its philosophical "agenda". So instead of undertaking a fully-fledged ANT analysis, I have decided to focus on certain aspects of ANT which will help me theorize and analyze my methods and data. What particularly struck a chord with me was its emphasis on the emergent. The realities we live in are not static frameworks, but they come to life, so to speak, through action and interaction. This also has repercussions on how we understand science. Being a scientist doesn't mean uncovering facts; instead, our methods are a co-constitutive of the fact we create. And finally, the sensitivity towards the significance of the immaterial and how the immaterial is equally co-constitutive of the realities we create was a useful eye-opener.

In the following I will therefore look at how these aspects are articulated within ANT. Because ANT in many ways turns the way we understand science and society on its head, it is difficult to identify exactly where the right entry point is when trying to unpack its ontological foundations without losing sight of the more

applied and operational aspects of why we are engaging with ANT. I have therefore decided to use Law and Urry's article Enacting the Social (Law, Urry 2004)as the entry point. This particular article has been crucial in framing and positioning my own research as it resonates the initial query; what is the more than of the GPS devices mapping the participants' daily whereabouts and movements?

Methods are performative

In the following I will unpack the "building blocks" which form Law and Urry's line of reasoning. Law and Urry formulate a research agenda for the social sciences centered on performance and enactment which is further elaborated in Law's "After Method. Mess in social science research" (Law 2004) and Law and Mol's "Complexities: An introduction" (2002). While Law represents a post-ANT position I still find the article useful as a way of bringing forward some of the important aspects of ANT from which we draw.

Law and Urry's main argument is that in a world of increasing complexity, the social sciences need to reimagine their methods: messy worlds call for messy methods! What we furthermore need to be aware of is that the methods we employ are not just neutral tools we can use to dissect the studied object; our methods are performative; they have agency; they enact our social realities (Law, Urry, 2004:391; Law 2004: 37-38) Following this argument, the performativity of our methods also have a normative quality. They term this 'ontological politics': when we critically engage with our methods, we also engage critically with the world.

As Law and Urry argue, there is nothing controversial about methods having effects as such. However, the argument that methods enact and bring realities into life has ontological implications. They draw on an ANTish objection against the idea that the social is a ready-made thing, waiting to be discovered, captured, depicted, and categorized. Instead, they see the social as something always in the making, something always enacted in non-hierarchal associations between humans and non-humans.

So one of the key arguments is that methods not only have effects; they also help bring into being whatever they assemble (Law, Urry 2004:392-393) methods are performative. In order to unpack this statement, we start out by looking at Latour and Woolgar's anthropological laboratory studies (Latour, Woolgar 1979) which they undertook in California in the 1970s. With a distinctively ethnographic approach, Latour and Woolgar set out to investigate how scientific facts come about in the laboratory. From a sociological point of view they sought to grasp what actually happens inside the black box of 'science'. The two sociologists arrived at two conclusions which were crucial to the further development of Actor-Network Theory. One of them, which we will look at now, was that scientific facts are not ready-made and waiting to be uncovered; they are established through a relational process of negotiating and stabilizing facts. The other aspect was the material dimension to this knowledge production, which we will look at in the following section. Now, what does it mean that scientific facts are not ready-made? What dawned on Latour and Woolgar during their studies of how scientists go about being scientific was that they don't just uncover already existing co-relations and facts. It is the process of 'uncovering' in which facts are produced:

"Nature" is a result of a process and it is not an independent domain of reality, causing processes (Olesen, Kroustrup 2007: 66)

In other words, facts are constructed; they don't exist independently of our realities. This doesn't mean that all facts are relative – what Latour and Woolgar stress is that facts are relational. When a new scientific discovery is made, it is highly dependent on the process in which it is

made: apparatuses, methods, scientific paradigms, discourses, etc. What Latour and Woolgar argue is that scientific facts are not facts until they are made facts, and it is this particular point which is often lost when we engage with scientific knowledge. We forget the specific making of scientific knowledge and simply refer to the outcomes of these processes as objective truths, just waiting to be uncovered. This point is famously illustrated in Latour's book "The Pasteurization of France" (Latour 1993a) in which Latour shows how Pasteur's success relied not just on Pasteur and his scientific skills, but on a whole network of actors and intersecting circumstances which can't be reduced to bounded and seemingly objective domains such as science or society.

The point that scientific facts are constructed form the basis of Law and Urry's argument that (social) sciences are productive:

"They (help to) make social realities and social worlds. They do not simply describe the world as it is, but also enact it" (2004:391).

What this, in turn, implies is that the methods we employ are performative (p. 392). Our methods are not just neutral tools we use to describe social realities; they are an active component in articulating these worlds. This performative aspect is important and, as mentioned above, the production of knowledge becomes relational and the material aspect of the knowledge production, apparatuses, and technologies is an equal part of this process. In other words, knowledge is an assemblage of relations, human as well as non-human and these relations are not stable per se.(Blok, Elgaard Jensen 2009:27)

When relations are fleeting, they become performative and it is this aspect which correspondingly is addressed by Law and Urry (Law 1998:4). If the object – social science in this instance – is destabilized, so too should our methods.

"Rather than posing ontological or epistemological questions concerning Reality, and our access to knowledge about Reality, ANT embarks on a concrete empirical investigation of how we practically and locally construct concepts as real. Thereby ANT replaces a philosophical problem with an empirical and social-scientific problem" (Jensen 2005:195, own translation)

This ties in with a critique of the modern dualistic divides between nature and culture, human and technology, object and subject, embedded in the (anti)-ontological project of ANT, and post-ANT (Latour 1993b) Modernity has created a detached and glossy representation of reality by insisting on dualities and binaries which are out of sync with the plural realities we enact and live in:

"Yet modernity requires a representation of reality consisting only of images of purified objects (...) Modernity, its epistemologies, its philosophies of science, and sciences represents a world of broken networks and dismembered hybrids-not the one in which we live or about which we want explanations" (Harding 2008)

The laboratory studies illustrate Latour's initial opposition to this binary thinking by proposing that nature and culture are not two separate domains. Rather, they are constituted as material-semiotic assemblages. Paraphrasing Law and Urry (2004), the world is messy and "messy worlds call for messy methods." We need sciences and methods to patch up the broken hybrid realities we live in and bring us beyond the modernistic divide. In other words; there is no Reality out there to be uncovered with a scientific torch, shedding light on a ready-made factual landscape. Rather we use our methods to stich up facts:

"The move here is to say that reality is a relational effect. It is produced and stabilized in interaction that is simultaneously material and social. Heisenberg wrote about a version

of this problem in physics: "What we observe is not nature itself, but nature exposed to our methods of questioning. "(Law, Urry 2004:395)

Material semiotics

As mentioned above, the role of the material plays an important role in Actor-Network Theory. With the laboratory studies, Latour and Woolgar pointed to the crucial role the material plays in the construction of scientific knowledge. When the physicist 'uncovers' a scientific fact, this 'fact' – say, a particle – is enabled by a network of actors. The scientist brings order to chaos, so to speak, by aligning a series of actors, material as well as immaterial. As Blok and Jensen put it: scientific facts in Latour's perspective are more about logtistics than logics (Blok, Elgaard Jensen 2009:50). This way of viewing science as a networked assemblage of symmetric actors bears a resemblance to semiotics, and illustrates the close kinship ANT shares with semiotics (Law 1998, Jensen 2005); signs are not independently meaningful but gain meaning through their relation to other signs. This relation, however, is not essential; it is contingent and only through the fixity of these relations a given "essence" obtains obduracy (Jørgensen, Phillips 1999). ANT replicates and expands these relational and anti-essentialist elements beyond the linguistic sphere to contain the material. It is the (contingent) relation – or associations – between the actors that forms a network, and it is this network which has effects. The network is not stable, per se, but often it appears as such and therefore becomes hidden and taken-for-granted. An example of one such seemingly stable network, which suddenly exposed itself and its vulnerability, was when European air traffic was halted in April 2010 due to the Icelandic volcano Eyjafjallajökull spewing ash into the atmosphere. The volcanic eruption thus challenged our understanding of global, seamless, 24-7 connectivity, enabled by a complex network of air traffic. Please see Ole B. Jensen's account of how this disruption was experienced first-hand by an air traffic passenger (Christensen, Jensen 2011). Suddenly the network we know – and generally rely on – was interrupted by a volcano and, later, how scientists and aviation agencies interpreted data on to what extent volcano ash affected flight safety. It is these heterogeneous networks which are of interest to us – how they come about and what they achieve.
Following the above, one of the founding 'principles' of ANT is that there is no hierarchy between the actors and the relations which form the network. ANT subscribes to a flat ontology and, thus, when I am typing this text I am equally important to the "dissertation-network" as the power plant which supplies power to my computer. This means that the classic dichotomy between the objective and the subjective ceases to exist; they have equal agency when looking at the world from a network perspective. This is a controversial stance and the discussion of agency is not straightforward. The idea that my computer should have the same level of agency as myself is provoking and not necessarily obvious. Without being religious about what and how agency is constituted, Latour's point is useful in the sense that he challenges our preconceived understanding of 'the material' as playing second fiddle to human action and interaction. The material and the immaterial are equally co-constitutive of the realities we live in. Imagine a city without street signs, sewers, planning discourses, economies, time tables, etc. It doesn't make sense, and in that respect a city is constituted by an assemblage of things, people, emotions, infrastructures, documents, etc. In chapter 5 we will look closer at how this network-thinking has been endorsed in urban theory.

Latour expands his material semiotics to sociology in "Reassembling the Social" (2005) and investigates how the social has become a "naturalized" and obdurate domain. Latour argues that the social is not something to be found "out there"; the social is a dynamic

process, constituted by associations between entities that in themselves are not social. Again, the material-semiotic is applied; the social is performed in hybrid networks made up of associations between human and non-human actors. Instead of referring to the social as an independent substance, Latour urges us to approach the social as a process of enactments:

"When we say that ´something is social' or 'has a social dimension', we mobilize one set of features that, so to speak, march in step together, even though it might be composed of radically different types of entities. This unproblematic use of the word is fine as long as we don't confuse the sentence 'Is social what goes together' with one that says 'Social designates a particular kind of stuff.' With the former we simply mean that we are dealing with a routine state of affairs whose binding together is the crucial aspect, while the second designates a sort of substance whose main features lie in its differences with other types of materials"(Latour 2005:43)

The social, in other words, does not explain the social; it is not to be identified as an autonomous framework defining social interaction (Latour 2005:167). In an ANT perspective, the social folds and unfolds as an ever-changing movement of heterogeneous elements that may be associated together (Latour 2005:160). This "type" of sociology is referred to as sociology of association and implies that the social is assembled through non-hierarchical relations between human and non-human actors.

ANT has been criticized for becoming too rigid – the social is played out, traced, and explained through dynamic and hybrid relations(Blok, Elgaard Jensen 2009: 33, 81-82) – and there is nothing above or outside the network . Law, who represents a post-ANT stance, claims that in some sense ANT has forgotten its original "purpose" – to not be about something in particular (Law 1998:10). ANT, much against its original purpose, has become an immutable mobile, a travelling theory – something which my own employment of ANT shows. Law's claim is not for or against ANT, but to sharpen the focus because the simplification has reduced the sensitivity to be talking about, appreciating, and practicing complexity. This is again a discussion internal to ANT-field. In relation to this research project, we are interested in the element of enactment, embedded in ANT. This framework allows us to engage with the world as it takes shape in heterogeneous networks as they are enacted.

Usefull tools

Inscription devices
Latour's notion of inscription devices is relevant when looking at GPS tracking and mapping. Technologies, anything from pencils to complicated microscopes, help bridge the gap between chaos and scientific order. Inscription devices create representations of material matter, so to speak, and help "decontextualize and diversify material processes" (Olesen, Kroustrup 2007:70). As an example, the assemblage of GPS devices, satellites, databases, and software, forms an inscription device which helps transform fleeting bodily movements to a readable map.

(Im)mutable mobiles
The notion of immutable mobiles is in close relation with description devices. The immutable mobile is the "format" which lets scientific knowledge travel. For example, by transforming measurements of air pollution into a graph and thus creating a representation of this knowledge assemblage, the graph can be posted to a colleague across the Atlantic and will still be readable and intelligible. The reason why the graph is immutable as well as mobile stems from the topologies applied by Latour. As Law and Mol note, (Law 2002) what Latour cleverly orchestrates is for the graph, the immutable mobile, to participate in both a network space as well as Euclidian space. All the enactments, embodiments, and materialities required to secure the immutable mobile form a network space. So on one hand, if the network remains stable, the graph is still intelligible when it reaches my colleague. On the other hand, the graph does indeed travel from A to B through Euclidian space. Had I instead emailed the graph this journey would have been somewhat complex; it would have entailed "taking the graph apart" in order for it to travel through cables and wires.

Post-phenomenology

The second main building block of the ontological framework from which the dissertation is built comes from the field of post-phenomenology. Again, as discussed when we looked at ANT, this position is hemmed in by extensive philosophical discussions and disputes. The intention here is not to dwell on these implications, but rather to look at what post-phenomenology has to offer us when looking at the entanglement between body, technology, and place. The reason why post-phenomenology is interesting in this context is that it provides a framework which endorses the relational thinking embedded in ANT, but still allows us to look at how bodies and technologies in conjunction create new perceptions of the city. In order to grasp the embodied aspects of the GPS maps, I want to draw on two important concepts from post-phenomenology: mediation of perception and multistability. These tools will be employed when looking at the GPS maps, as the notion of mediation gives us a way to analyze how people make sense of their GPS tracks.

The post in post-phenomenology

Post-phenomenology draws, as is implied in its name, on phenomenology. But, importantly, it also diverges from phenomenology in some key aspects. In order to understand where post-phenomenology departs from classical phenomenology, I will briefly sketch out what is entailed when we talk about phenomenology. Husserl is seen as the founder of phenomenology and it is his thinking which, among others, Heidegger and Merleau-Ponty famously built their work on. Classical phenomenology is positioned in opposition to an empirical, scientific approach to knowledge because it, from a phenomenological perspective, reduces and objectifies reality which essentially begins with and presupposes the subject. Science distorts and "dilutes our original lifeworld which phenomenology aims at recovering" (Rendtorff 2004:280 own translation). An essential cornerstone of phenomenological analysis is therefore based on the subject and its relation to the world. Phenomenological thinking reinserts the subject and the concrete experience of the world rather than abstract representations of such experiences. Phenomenological ontology thus puts existence before essence, meaning that human existence cannot be explained by deducting underlying systems and structures (Rendtorff 2004: 287-288). It can only be explained by looking at and engaging with actual and practical experience. In fact, it makes no sense to speak of a generalized, empirical view of reality, because human consciousness is always directed towards something and this something – a given phenomenon – only emerges in this relation:

"Subject and object constitute each other not from nothing, but by virtue of their existence, understood as a transcendental construction: existences are not empirically perceivable but they are a necessary presupposition – inaccessible though they be – in order to account for the mutual constitution of subjectivity and objectivity. Subjects and objects are not building stones between which human-world relations are built up, but rather products of these relations, just as existences can only become actants in concrete networks of actants." (Verbeek 2005:164)

One very essential element of classical phenomenology is therefore the notion of intentionality: consciousness is always directed toward something. There is no such thing as knowledge about the world without human engagement:

"Human bodies are continually engaged with their world, and this engagement precedes any judgment they may have of it. Put another way, it is impossible to speak about the world in the absence of human involvement with it. Reality-in-itself is unknowable, for as soon as we experience or encounter it, it becomes

reality-for-us: a world. There exists neither human beings in themselves nor world-in-itself." (Verbeek 2005:110)

In that respect, our perception of the world is always situated in context and body. Object and subject are co-constitutive of each other and the only way we as human beings can experience the world is through engagement and practice (Verbeek 2005:112). It is this relational aspect which post-phenomenology draws on. The question is then how we experience the world. While still insisting on situatedness and embodiment when looking at how engage with the world, post-phenomenology looks at how this engagement, or relation, is always mediated. Thus, technologies, artifacts, things, become essential elements because they play an important role in co-shaping our realities. Rather than dealing with technologies and artifacts as alienating elements distorting our access to an authentic existence (Verbeek 2005:114), post-phenomenology enables us to look at the relationship between technologies and human perception relationally. It is this particular potential I will tap into when engaging with a post-phenomenlogically inspired approach in the analysis of the GPS maps. In the following we will look at Don Ihdes take on post-phenomenology and, in particular, two concepts: mediation of perception and multistability. It is these concepts which I later apply to the analysis of the GPS maps.

Mediation of perception

As briefly outlined above, the human body is a key prerequisite for phenomenological analysis, and it equally forms the starting point for Don Ihde's post-phenomenology. His position is, following Verbeek, material-hermeneutic which means that Ihde is concerned with how technologies shape the way human beings experience the world and thus interpret reality (Verbeek 2005:122). Ihde thus diverges from classical phenomenology by insisting on the human-technology relation as being fundamental to how we perceive and engage with the world (Ihde 1990:41). Ihde operates with what he calls body one and body two (Ihde 2002: xi; Ihde 1990:29). Body one is the immediate body with which we sense and experience the world, for example, when I take a sip of my coffee. Is it too hot or too cold? Body two is the social or cultural body. Our bodily engagement, experiences and perceptions are always rooted in a cultural or social context and when I parade around town with my to-go coffee it represents a cultural practice, as well. Body one and two are always intertwined: for example, last Christmas I gave my parents two coffee mugs without handles and they were clearly bewildered as what to do with them. Firstly, on a sensory level, the design of the coffee mug made it appear impractical because the missing handle made it tricky to manage a piping hot cup of coffee. Secondly, this way of drinking coffee – and presenting yourself – was clearly too lax for my parents. In trying to make sense of the handle-less coffee mug, both body one and body two were at play on some level and informed each other.

Drawing on the above example, the mug plays an essential role in mediating the coffee "experience" and this entanglement among body, world, and artifact which I will draw on later in the analysis. The basic idea for Ihde is

Fig 4: Snellen chart

that perception is mediated by and through objects. When I go for a walk on a cold winter's day, a heavy oilskin coat keeps me warm; my perception of this day and this place is mediated, amongst other things, through my coat. Without the coat the perceptual experience would be very different! Similarly, when I return to my flat, my glasses steam up and disrupt my vision. This doesn't mean that the world actually IS steamed up, but in this co-relation between temperature and glasses it is perceived as such. Ihde has a series of conceptions dealing with how artifacts mediate the way we as human being engage with the world: embodiment relations, hermeneutic relations, alterity relation, and background relation. These are useful concepts for looking at how to make sense of the GPS maps.

Embodiment relations

Embodiment relations occur when human beings use technologies or artifacts to expand their sensing of the world. Ihde draws on two classical examples: Heidegger's hammer from

Fig 5: "Hi, I'm a Mac!" advertisement

"Being and Time" (1927) and Merleau-Ponty's feathered hat from "Phenomenology of Perception" (1945/2012). Both examples show what things do. Heidegger's hammer hammers and it makes no sense to understand the hammer without the context and (embodied) relations in which it works. Importantly, when the hammer hammers it withdraws from the actual experience:

"The tool or equipment – in use – becomes the means, not the object, of the experience.... This withdrawal of the technology from within direct experience is what I shall later term an embodiment experience." (Ihde 1990:32)

While Heidegger's hammer withdraws, Merleau-Ponty's lady wearing a feather hat (she skillfully moves about wearing a feathered hat, making sure it doesn't bump into doorways and the like) shows that artifacts can be used to expand the sensory extent of our bodies. What constitutes an embodied relation is the withdrawal of the technology – like when I wear my contact lenses – and forms an (I-technology)-world relation. In Ihde's words the technology becomes "maximally transparent" and it extends one's bodily sense.

Hermeneutic relations

When the relation among human, world, and artifact creates a representation which requires interpretation, "relations in the world are not perceived through the artifact but by means of it"(Verbeek, 2005:126). The relation thus looks like this:

I -> (technology-world)

Unlike embodied relations, the artifact in a hermeneutic relation is not transparent. Returning to my contact lenses, when I go for an eye test at the optician I engage in a hermeneutic relation when trying to read the Snellen chart (see fig. 4 and 6). My reading of the chart is then interpreted by the doctor who can identify just

how poor my eyesight is and the Snellen chart thus becomes representation of visual acuity:

"The transformation made possible by the hermeneutic relation is a transformation that occurs precisely through differences between the text and what is referred to. What is needed is a particular set of textually clear perceptions that "reduce" to that which is immediately readable." (Genius loci: Towards a phenomenology of architecture erbek, 2006:88)

One might argue that the eye test is equally an embodied relation when the eye doctor manipulates and distorts my sight with different lenses. Finally, at the end of the test, he lets me view the chart with the correct prescription and the relation changes to (I-technology)->world. This illustrates that embodiment and hermeneutic relations generally happen on a human-technology continuum, as Ihde suggests (Ihde 1990:93)

Alterity relations
Alterity relations are related to Latour's black box when the artifact becomes a quasi-other, as opposed to the embodiment relation where the relation is a quasi-I, as was the case with my contact lenses. In this instance, technology doesn't mediate perception; rather, it is a relationship with a technology (or artifact):

"What the quasi-otherness of alterity relations does show us is that humans may relate positively or presententially to technologies. In that respect and to that degree, technologies emerge as focal entities that may receive the multiple attentions humans give the different forms of the other. For this reason, a third formalization may be employed to distinguish this set of relations: I-> Technology-(-world)." (Ihde 1990) p.107

One example of an (positive) alterity relation is Apple's 'Hi, I'm a Mac' advertisement campaign (see fig. 5). On two levels it plays on the human-computer alterity relation by letting a hipster and a grey suit represent a Mac and a PC, respectively. The computer instantly represents such technological autonomy in that they are characterized by actual people: the quasi other. The Mac – or so the advertisement would hope to communicate – is likened with a cool, witty dude with whom you can relate to and engage with. The PC, on the other hand, represents the stereotypical black-boxed human-computer relationship; the computer is something I don't comprehend, it's rigid and it talks to me in a language I don't understand. So where the Mac is your friend, and thus represents a positive alterity relation, the PC in turn relates the grey otherness and alienation we often assign Technologies. However, this otherness we ascribe to technologies omits the actual agency delegated to the technology by humans.

Background relation
Finally, we look at background relations. This set of human-technology relations concerns technologies that remain in the background because we assign them a certain level of taken-for-grantedness:

"The machine activity in the role of background presence is not displaying either what I have termed transparency or opacity. The "withdrawal" of this technological function is phenomenologically distinct as a kind of "absence". The technology is, as it were, "to the side". Yet as a present absence, it nevertheless becomes a part of the experienced field of the inhabitant, a piece of the immediate environment." (Ihde 1990:109)

Examples of such background technologies could be air conditioning, thermostats, lighting, fridges, etc. It is important to note that the taken-for-granted characteristics of such background technologies only apply to the extent that the technologies remain in the background. In an earlier section, I used the Icelandic volcano Eyjafjallajökull as an example of what happens when an obdurate network

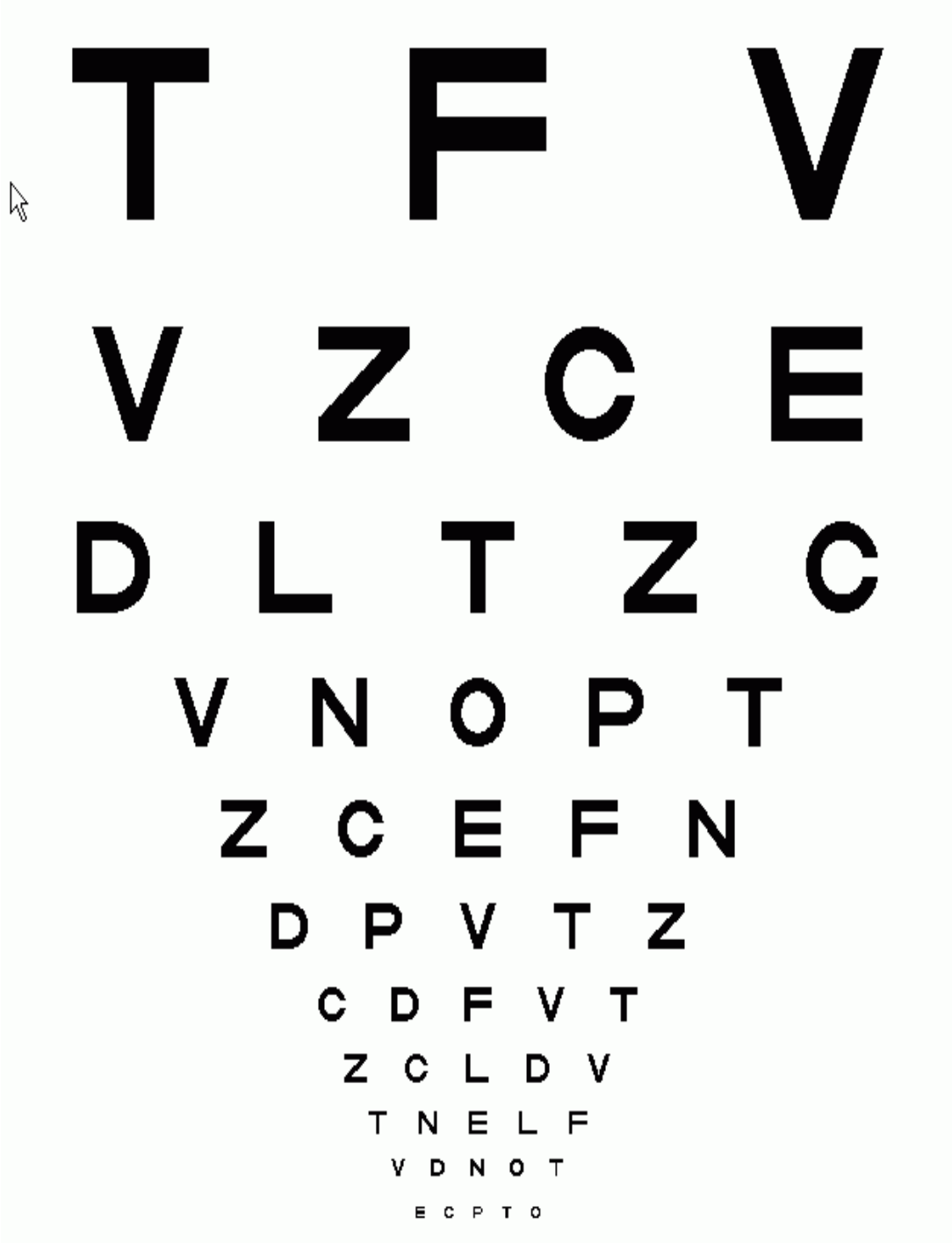


Fig 6 : Snellen chart

cracks open. The same applies to Ihde's notion of background technologies: it is only when there's a power cut that we notice the electrical system, because the lights are suddenly out and the fridge doesn't work. Even if these background technologies don't mediate perceptions in an embodied sense, they still operate on a continuum of human-technology relations and shape the way we perceive the world (Ihde 1990:112). Again, without electricity I wouldn't be able to see or do much between four pm and eight am in the winter. Or, rather, I would have to apply other strategies, such as using a petrol lamp, which again would shape my perception of the world.

Multistability

Having looked at different human-technology relations I want to wrap up this brief review of some of Ihde's key concepts by looking at the notion of multistability. In order to depart from the distinction between technologies as either instrumentalist – i.e. that technologies are a neutral means to achieve goals – or technologies as substantivist – i.e. that technologies are deterministic – the notion of multistability is fruitful to employ. Ihde puts it this way:

"Negatively I have argued that there is no single or unified trajectory to "Technology"(...), that technologies in that sense are not "autonomous"(...). Positively, I have argued that technologies are non-neutral and essentially, but structurally, ambiguous. In the relationship with humans and humans-in-culture, technologies transform experience and its variations. Further, I have argued that at the complex level of a cultural hermeneutics, technologies may be variantly embedded: the "same" technology in another cultural context becomes quite a "different" technology." (Ihde 1990: 144)

The point is that technologies are context-dependent; they have no intrinsic properties as such. There is no technology-in-itself, technologies "make sense" in their use-context. As an example, GPS technologies were initially developed as tools for military surveillance and today they can be used to facilitate a fun day out, doing geo-caching, a GPS-enabled treasure hunt. Again, Ihde's approach to human-technology relations echoes that of Latour's in the sense that his approach is non-essential and meaning occurs through praxis. In the following we will wrap up this chapter by looking at how ANT and post-phenomenology diverge and intersect, and accordingly, I will indicate how I intend to apply my ontological framework.

Summary - a kinship between ANT and post-phenomenology

As outlined in the above there are obvious similarities between ANT and post-phenomenology. They both share a focus on the material and the role it plays in shaping our worlds. Furthermore, they are both non-essentialist and relational. Meaning occurs in a relational field between object and subject. But for obvious reasons there are areas where the marriage between ANT and post-phenomenology doesn't work that well. Ihde touches upon this problem in his essay 'You can't have it both ways. Situated or symmetrical' (Ihde 2002). One key point of conflict between the two positions is the role of the body. Ihde argues that the symmetrical relation between human and nonhuman applied in ANT ends up implementing another disembodied view from nowhere:

"I argue, of course, that such symmetries revert to functional equivalents of precisely the Cartesian modernism that postmodernity wishes overthrown in that (a) the perspective from which the symmetry is drawn is unknown, (b) the absence or transcendence of the narrator again creates a god-trick of non-situatedness, and (c) the question of for whom the system operates also hides the politics of semiotic systems" (Ihde 2002: 80)

As Ihde points out, the nonhumans have inserted themselves on the agenda, but what they are exactly in ontological terms remains a source of academic dispute. ANT represents one radical position, in which humans and nonhumans are interchangeable, and further along this symmetry continuum are thinkers like Donna Harraway and Andrew Pickering who operate with more hybrid symmetries; Harraway is well-known for her cyborg-conception (Ihde 2020: 88-89). In this context I endorse a relational perspective which doesn't necessarily subscribe to the radical symmetries proposed by Latour. As Verbeek points out, ANT and post-phenomenology fundamentally ask two different questions although they both aim at moving beyond the divide between subject and object:

"Actor-network theory is primarily interested in unraveling the networks of relations by virtue of which entities emerge into presence, while a post-phenomenological approach, by contrast, seeks to understand the relations that humans have with those entities – and for which the network of relations and interactions that allows the entities to emerge into presence is not the primary focus of interest" (Verbeek 2005:164)

So, what are the realities we are dealing with? When exploring the everyday geographies of the suburb, assembled from the ground with a group of teenagers and a handful of GPS devices, the ambition is to not reduce the complexity of their worlds. Therefore the study is not "representative". Rather, it is to show how diverse worlds are made up of interactions and practices, and that the urban is highly dependent on these fleeting encounters and movements. Bearing the controversies outlined above in mind, I aim at applying an ANT- and post-phenomenology-inspired analysis, which should provide me with the right tools to investigate the relationship between GPS technology, the user, and the urban.

I use ANT to speak about and conceptualize the urban as something emergent. While I am less interested in undertaking a "traditional" analysis of how the suburb emerges as a network of relations, ANT still offers a sensibility towards the entanglement between human and non-human actors; an important ontological stance when trying to come to grips with the interplay and output that emerge between users and GPS technologies. ANT furthermore offers an ontology of process, relation, enactment, and multiplicity which ties in with the efforts to get beyond an understanding of the suburb as a bounded geography. Finally, this framework urges us to embrace the performativity of the methods we apply.

The GPS methodology will help me undertake the analysis of the emergent nature of the urban, and at the same time I will look at what the methodology does to the way we understand the urban. In that respect, the conceptual framework I have drawn from Don Ihde will help me undertake this analysis of the embodied and performative relationship between technology and user. Post-phenomenology helps shed light on the more-than of the location-aware technologies through "the non-neutral ways in which technologies mediate human experience, of oneself, others, and our lifeworld." (Ihde 2008:7)

In the following chapter I will unfold how ANT and post-phenomenology have been applied in a broader field of urban planning, theory, and design. Thereby, I wish to operationalize and contextualize the theoretical contributions outlined in this chapter and make them more applicable when later approaching an investigation of the intersection between the empirical findings and our methods applied.

URBAN ASSEMBLAGES

04

Urban assemblages

The urban as infrastructure and enactment

The chapter "Urban assemblages" picks up where we left in chapter three. We now take a closer look at how ANT and post-phenomenology have been applied in urban studies in order to get an idea of how the urban can be conceptualized as something emergent and embodied. This is done by drawing on an interdisciplinary collection of work from human geography, sociology, architecture, and interaction design.

Actor-network theory is gradually starting to have an impact on how the urban is conceptualized theoretically, which in time should also have an impact on how we design our cities. We therefore start by looking at writings which in one way or the other deal with ANT and apply it to an urban context.
In one sense, it seems paradoxical to conceptualize the urban as something emergent, considering its seemingly very stable nature. Pavements, streetlights, and benches are not emergent! They don't just change shape over night! But over time, certainly, cities and city spaces change shape and meaning. Detroit, once a booming industrial town on par with New York City, has now become devoid of its original functions as processes of de-industrialization swept across the Western world. This has left the built environment as a strange decaying setting, where new practices and meanings may or may not breathe new life into the urban fabric. See also Jensen (Jensen 2010) for a view on the reconstruction of Route 99 which looks beyond its instrumental properties and engages with how 'place' can be narrated by giving voice to complex mobility practices embedded in a seemingly 'dead' piece of infrastructure. Following the quote below by Ignacio Farias, infrastructures and buildings are singular, static entities; they can be seen as performed through enactments and networks.

"[Paris ville invisible by Bruno Latour] shows that Paris exists in no one space or scale but is enacted differently at multiple sites. Space, time, and the city itself are produced, or better, emerge thus in ways conditioned by the types and extension of the actor-networks operating at these local sites. In this manner ANT destabilizes the autonomy and explanatory priority attributed to space in urban studies, substituting the key notion of sites in plural for it. Sites are defined not by spatial boundaries or scales, but by types and lines of activity, and spaces emerge through the networks connecting different sites". (Farías, Bender 2010:6)

When the anthology "Urban Assemblages" was published in 2010 it was one of the first extensive attempts to cover what urban studies might look like viewed through the lenses of ANT. While not specifically dealing with the urban, ANT still has a lot to offer urban studies. Its critique of the social as a homogenous, bounded entity also has ramifications on how we view the urban; its emphasis on enactment and complexity and, of course, the concept of the social being constituted in heterogeneous networks of human and non-human actors, is very relevant when investigating the urban.

As mentioned above, we often tend to think of the "hardware" of cities – such as buildings and parking lots – as static, and of the people moving through the city, the "software", as dynamic. Jensen (2009) refers to, and opposes, this classic notion of the city as a space of armatures and enclaves – armatures being the city's transit spaces such as roads and train lines, and enclaves being its fixed, enclosed properties such as department stores and train stations:

"We are not denying that cities are sites of static structures, or that they host encounters at a stand-still. What is contested though is a notion of cities as if their essence is morphological structures and static enclaves alone." (2009:140)

As should be clear now, working with ANT in urban studies is not about denying the existence of "hardware" of cities. It is about challenging its static, obdurate being and investigating the city as a part of the interaction between humans and non-humans, technologies, objects, people, and places. It is about 'de-centering' the object, which means "that we should understand its [the city's] materiality and the reconfigurations of places in networks as something inherent to the 'infrastructural city' (Jensen 2012:5) Two recent examples of such research include Anique Hommels's "Unbuilding cities" (2005) which investigates the "obdurate" in city making, and Albena Yaneva (2011) who investigates architecture as performative, heterogeneous networks.

In the following we will take a look at how the ideas of networks and emergence in ANT have been dealt with within the field of urban studies. Firstly, however, the work of Manuel Castells will be introduced as a backdrop for the network-thinking endorsed within this branch of urban theory.

The city as spaces of flows

The 1990s were in one sense captivated with the idea that globalization had made place redundant. That global flows swept across the globe through intensified communication and mobility systems, fusing cultures and mindsets into one big global village. Manuel Castells was a major contributor to the articulation of globalization as 'spaces of flows'. In his seminal work, 'The rise of the networks society' (1996), Castells predicts the end of cities, certainly as we know them. All-encompassing information flows make spatial proximity irrelevant; a global company can run its businesses from one of the big financial centres – London, New York, or Tokyo – and outsource its production to locations thousands of miles away. These spaces of (informational) flows then determine how the new city template – the informational city –develops. What is interesting about this city template is that it is more about process than form; a process characterized by the structural domination of the space of flows. (Castells, 1996:398) What are these spaces of flows? Castells identifies three layers which describe the spaces of flows: the first consists of information technologies, digital infrastructures which enable flows – or information – to "travel" seamlessly.

"In this network, no place exists by itself, since the positions are defined by flows. Thus the network communication is the fundamental spatial configuration: Places do not disappear, but their logic and their meaning become absorbed in the network." (1996:412)

The digital infrastructures afford a certain kind of socio-spatial organization; just like the invention of the automobile did to urban structure and the organization of work and family life. This observation is interesting because it points to a fleeting and relational conceptualization of place. However, one might disagree with the notion of structural forces at play. We will look at this when we return to Massey's "sense of place".

The second layer of the spaces of flows is its nodes and hubs: the cities from where the spaces of flows are orchestrated. This element bears a resemblance to Saskia Sassen's global city thesis; global financial markets are run from strategic locations throughout the globe, and this flow of economic activity, skipping geographies and time zones, is enabled by digital infrastructures. While the global city thesis remains prominent, Castells posits that any location in the world has to be understood relationally; places are interdependent in a global locational hierarchy. One could argue that this may not be a new circumstance: Manchester during the industrial revolution was highly dependent on natural resources produced

elsewhere, tying place up in a global network of textile production. It is the means with which these interdependencies are created that are new and changing the rules of the game.

The last element to the spaces of flows is the spatial organization of a domineering, managerial elite. Put concisely, those who are on top of the game are the highly mobile, cosmopolitan elite, and those at the losing end of the game are the immobile people, their "life and experience rooted in places, in their culture, in their history." (Ibid, 1996:415-416) Spaces of flows are nomadic and ahistorical; spaces of places are rooted and stagnant. This, according to Castells, leads to conflict and segregation between spaces of flows and spaces of places. Castells defines a place as "as a locale whose form, function and meaning are self-contained within the boundaries of physical contiguity" (Ibid, 1996: 423). In this definition lies a clear conflict with the nomadic nature of spaces of flows; the structural domination of the spaces of flows undermine spaces of places, not necessarily as romanticized, authentic places, but "the reduction of everyday life's space to instrumental logic of the global city." (Ibid, 1996:426) Whether the conflict between spaces of flows and spaces of places is quite as straightforward will be discussed from a critical mobility perspective in a subsequent section.

Castells unpacks the notion of a network society enabled by digital infrastructures as a novel concept in the way networks bypass time and space, thereby creating a new spatial condition: spaces of flows vs. spaces of places. Even if this type of network is in some ways far from how Latour would understand the meaning of networks, the relational – but also mobile – aspects of the conceptualization of spaces of flows makes for a relevant contribution to a dynamic and emergent understanding of place.

The analysis of the global city, which Castells is a contributor to along with writers such as David Harvey and Saskia Sassen, has, however, been criticized for being detached from peoples and places and for privileging a certain perspective:

"Massey is absolutely right in pointing at what she calls "the spatialisation of the story of modernity" as a key problem in the conceptualization of globalization — that is, the fact that what is described as globalization is the universalization of a particular way of imagining cultures and societies as having a particular relation to (national) space". (Escobar 2001)

Even if Castells' analysis is not blind to the adverse effects of the spaces of flows – the slums and millions of marginalized people – it still remains somewhat devoid of other stories that might be at play. Doreen Massey put this very precisely in her article 'A global sense of place' from 1991, where she unpacks the notion of time-space compression. As she rightly points out:

"Globalization always takes place; it has concrete outcomes and impacts that are localized and embodied (...) Holding all these networks of social relations and movements and communications in one's head, then each 'place' can be seen as a particular, unique point of intersection. It is, indeed, a meeting place. Instead then of thinking of places as areas with boundaries around, they can be imagined as articulated moments in networks of social relations and understandings, but where a larger proportion of those relations, experiences and understandings are constructed on a far larger scale than what we happen to define for that moments as the place itself, whether that be a street, or a region or even a continent. And this in turn allows a sense of place, which is extroverted, which includes consciousness of its links with the wider world, which integrates in a positive way the global and the local." Massey,1991:28).

Massey demonstrates a distinctive awareness of the assembled nature of place which shares a lot of characteristics with Farias' understanding of site, introduced in the first part of this chapter. What they both have in common is the idea that places, or sites, are not spatial containers; they are molded and remolded by the networks which intersect them. Even if Massey isn't directly concerned with the material aspect of these place-assemblages, she still deals with them implicitly when she describes the traffic jams in Kilburn and how they are associated with a wider infrastructural network and the (paradoxical) freedom of individual car travel, which leads to congested roads in London. In that respect, Massey manages to situate and embody Castells' very abstract and detached concepts.

The city as infrastructure

From the roads in Kilburn we now jump to Graham and Marvin's 'Splintering urbanism',(2001) which looks at the network city from an infrastructural perspective; investigating how urban infrastructures became bundled and then unbundled again through a series of societal and technological developments over the past 170 years or so. Among others, they draw on Actor-Network theory as a way of conceptualizing how infrastructure networks are assembled relationally through materialities, people, and discourses. Graham and Marvin investigate the departure from the modern "unitary" city ideal which was developed roughly between the 1850s and the 1950s in a span from Haussmann to Robert Moses (Graham,Marvin 2001: 53), and the disintegration of this planning ideal into what they call "splintering urbanism".

In the modern optic, the city was viewed as a functional organism; a perception which was further cultivated by the CIAM movement. We have already looked at the modernist planning ideals and the welfare city in chapter 2, therefore we will not dwell on the principles and societal impacts here. What is relevant to look at is how this planning ideal also had a material, infrastructural component which very much worked as the glue of the unitary city:

"Between the mid-nineteenth century and the mid-1960s a dominant rhetoric of modern planning existed in the West which idealized the notion of the orderly, unitary city, tied together by a visible and non-visible web of standardized infrastructure grids."(Ibid, 2001:62)

The streets, the telephone cables, the electricity networks, and the sewers became the arteries of the city. As we have seen previously, the totalizing vision of the modernist planning idea has often been criticized for its inflexibility and detached, expert-driven methods. However, the unitary ideals were also warranted. By extending infrastructures to all citizens, the welfare state created continuity and equality in access and thereby upgraded living conditions significantly:

"Tying into the prevailing ideologies of science, technology and the city, all utopianist urban visionaries of the first half of the twentieth century painted a picture whereby emancipatory progress for all could be achieved through combining the new powers of mediating urban life by the latest energy, water, transport and communications systems, integrated through a planned modern urban landscape" (Ibid, 2001:64)

As Graham and Marvin point out, these infrastructural developments also enabled a whole new mass production and consumption format named after Ford's revolutionizing assembly lines, making the car – formerly known as an exclusive luxury item – available for mass consumption. Similar to what we saw in Castells' network city, the Ford era and the dissemination of new infrastructures enabled a certain societal organization, which for better or for worse emphasized equal access to goods, services, and lifestyles. This access, however,

was ensured by another essential component, the nation state, which orchestrated and implemented key infrastructure networks. I will not go into detail on the whole notion of nation building. Nevertheless, it is an important point in relation to understanding the structural powers of the spaces of flows, as suggested by Castells. What Graham and Marvin stress is that the expansion of infrastructural networks also served as a tool to demarcate and entrench the nation state, creating cohesion materially as well as socially (Ibid, 2001:74).

Why is all this important? Graham and Marvin's point is that the unitary city is crumbling, in many respects due to the changes outlined in Castells' Network City and the critiques of the modernist planning deal, outlined in chapter two. Globalisation, privatization, and liberalization have led to a fragmentation of how infrastructure networks are delivered and maintained. To a much larger degree the spaces of flows are driving the development of these networks:

"Infrastructure networks can simultaneously become 'unbundled' locally whilst being integrated internationally. This fundamentally challenges the modern notion that a 'city' or a 'nation' necessarily has territorial coherence in its own right, as a spatial container for economic activity which is somehow 'naturally' separate from surrounding spaces" (Graham,Marvin 2001:100)

One extreme but illustrative example of this situation is the slum dwellers living on airport land in Mumbai. In Mumbai, the majority – an estimated 60 percent of the population – live in slums, which makes for dire negotiations on the right to access basic amenities such

Fig. 7: Slum dwellers living on airport land in Mumbai

as water and electricity. At the same time, Mumbai strives to be 'a world class city', catering to global markets and needs. This puts the 800.000 (!) slum dwellers of the Mumbai airport in an extremely vulnerable position when the need for higher levels of connectivity and mobility create demands for a bigger and more efficient airport. An extension of the airport entails a resettlement of the slum dwellers, thereby surpassing the needs for local livelihoods. In a nutshell, this situation illustrates how those at the losing as well as the winning end of the game are so closely intertwined that global and the local are intermeshed, yet always situated in places and perspectives: the slum dweller, while being physically proximate to the runways of the Mumbai airport, couldn't be farther away from the highly mobile passenger on the airplane.

A second example from Denmark illustrates when the intricate interconnection between the local and the global seemingly becomes a threat to place. In the fall of 2010, Dansk Folkeparti proposed a ban on satellite dishes at multi-ethnic social housing estates. "The satellite dishes point towards the Middle East" said Pia Kjærsgaard, then leader of Dansk Folkeparti. The crime committed was, according to Kjærsgaard, that the residents of the housing estates use satellite dishes to watch television from all corners of the world and implicitly undermine the rootedness of place. The quote illustrates the normative fear of the nomadic and the global, undermining the authenticity of place, in this instance mediated by satellites and digital technologies. However, the quote also has an emancipating perspective, because it encapsulates the relational understanding of place which Massey advocates: The satellite dishes negotiate the absolute notion of scale and show how the spatial intersection of the local and the global potentially can make for richer and more dynamic places. The spaces of flows and spaces of places are not just structural systems of segregation, they are assembled through networks of people, infrastructures, movements, and values, and in these assemblages it is not always clear cut who is at the losing and the winning ends.
In that sense, the satellite dish and the airport slums represent different facets of what Graham and Marvin term the 'infinite city' (2001: 121):

"***Right across the planet the traditional urban cores that were subject to the modern infrastructural ideal have been swamped by widening, polynuclear, urban regions.***"

Infrastructures have become both dispersed and increasingly connected across the globe in sometimes conflicted networks which both segregate and enable new forms of interaction and identities.

The city as mobility
In close relation to the issues raised by Graham and Marvin, we find critical mobility studies. In this section we will take a look at mobility as a way of framing a relational understanding of the multiple flows, intersections and linkages from the local to the global (Jensen 2009:139). As was illustrated in the previous sections, (im)mobility has become a main node in how meaningful social relations are enacted: Castells touches upon the notion of mobility in his conception of spaces of flows vs. spaces of places; Massey illustrates situated, embodied mobilities with her everyday examples from Kilburn; and Graham and Marvin investigate the infrastructural networks – the immobiles – enabling and disabling movements.

What seems to be at play is that mobility has become something more than just travelling from A to B, more than, say, taking the bus from home to work and back again. Even in this seemingly simple sequence of movements is implied a series of meanings and discourses: maybe you can't afford a car, maybe you don't want to own a car for ideological reasons, or

maybe you just never considered buying a car because you can cycle most places, but today your bike just happens to have a flat tyre. The interplay and interactions entailed in something as commonplace as a bus ride suggest that implications of movements are co-constitutive of meaningful social life, and that mobilities therefore are made up of more than just people moving through cities and landscapes on feet, bikes, cars, or trains. As Urry and Sheller (2006) point out, "all the world seem to be on the move" – people, goods, ideas, lifestyles move – and these movements in turn cause immobility or involuntary movement, as we saw in the case of the Mumbai airport slum dwellers. Critical mobility thinking (CMT) – a term coined by Ole B. Jensen (2009) – is not "privileging flows, speed, or a cosmopolitan nomadic subjectivity, but rather of tracking the power of discourses, practices and infrastructures of mobility in creating the effects of both movement and stasis." (Sheller 2011:2)

It therefore seems relevant to investigate what the notion of critical mobility studies has to offer us as an operationalization of ANT. The research field of critical mobility studies stems from an interdisciplinary arena of research, bringing together "some of the more purely 'social' concerns of sociology with the 'spatial' concerns of geography while inflicting each other with a relational ontology of co-constitution of subjects, spaces and meanings." (Sheller 2011: 1-2) Because of its interdisciplinary nature, CMT draws on a diverse back catalogue of theoretical strands, one of which is Science and Technology Studies and ANT. The kinship with ANT is clear when Sheller et al (2006:212) state that: "Mobilities need to be examined in their fluid interdependence and not in their separate spheres- such as driving, travelling virtually, writing letters, flying and walking" In other words, it is not just about following the car but it is about patching up the networks enabling automobility and how such practices affect a complex set of social and economic relations.

Mobilities are orchestrated through heterogeneous networks of people and things, just as mobility also relies on immobility, on hubs or moorings, such as traffic signals and parking lots. However, it is important to remember that mobilities are multiple – automobility is an not an activity which can be derived solely of traffic signals and parking lots – and that automobility is gendered, ideological, and political, just as it is about a plethora of embodied everyday practices and mobile negotiations and intersections. As John Urry writes (2007):

"A mobilities turn is in part a critique of such a humanism that posits a disembodied cogito and especially human subjects able to think and act in some ways independent of their material worlds. This book presumes the powers of ' humans' are always augmented by various material worlds, of clothing, tools, objects, paths, buildings and so on."

Also implied in this is an empirical emphasis. Doing critical mobility studies is about following and investigating the mobile, it is about challenging the social sciences as a static discipline. We already looked at this from an ontological standpoint in chapter 3 when I addressed Urry and Law's claim that methods are performative, that they enact social worlds. The applied level of the performative nature of our methodologies will be further explored in chapter five, which introduces the notion of mobile methods and the methods applied in this particular research project.

Following the sensibility towards the interactions and entanglements between human and non-human actors, CMT also draws on a distinctively relational understanding of social processes:

"Mobilities involve what has been termed 'material worlds', a heterogeneous assemblage of bodies, technologies, texts, architectures, affects, etc. through which places are produced

and re-produced. Indeed, wherever we find flows we find place-making processes; wherever we find flows we find processes of de- and re-territorialization and de- and re-scaling". (From Mediterranean Mobilities, accessed on March 15, 2012: http://www.lancs.ac.uk/fass/projects/med-mobilities/critical/index.htm)

Implied in this understanding of place-making is a fundamental break with the sedentary and nomadic notions of place, introduced in chapter two (Sheller, 2011:2). Places are always in the making as described so vividly by Doreen Massey in her account of her Kilburn. Or as Jensen (2009:140) puts it:

"People not only observe the city whilst moving through it, rather they constitute the city by practicing mobility. The meaning of places in the city is constituted by movement as much as by their morphological properties."

Again drawing on ANT's critique of the social, CMS doesn't see societies, or places, as solely defined by absolute scales and geographical propinquity. (Sheller, 2011: 2) Following Lefebvre (1991), who in many ways has been a key inspiration of the spatial turn which CMS is now "mobilising", space is socially produced. The observation that space is processual rather than a container still holds true and ties in with the general critique of scale and the privileged position of Euclidian space embedded in CMS:

"Not only does a mobilities perspective lead us to discard our usual notions of spatiality and scale, but it also undermines existing linear assumptions about temporality and timing, which often assume that actors are able to do only one thing at a time, and that events follow each other in a linear order." (Sheller, Urry, 2006:214)

As we shall see in the following section, digital media technologies have had a substantial impact on how notions of scale, space, and time are negotiated. What is at stake is that places are not in opposition to flows as Castells proposes; they are co-constitutive. Places are created in motion, through face-to-face as well as virtual encounters.

In sum, critical mobility studies illustrates an approach to urban studies which emphasizes the dynamic and complex processes of place-making. When later addressing the "object" the suburban, the mobility-lens is therefore fruitful due to its sensibility to the ontology of enactment introduced in chapter three.

The city as digital grounding[1]

As mentioned in the previous section, digital media technologies have had a significant impact on how the global and the local become negotiated, and furthermore, these technologies are tied in with new types of mobile practices and interactions. Therefore, in this section we take a look at how digital networks have become grounded, and show how these developments have changed the way people engage with places and localities. What is interesting about the literature in this field is that it merges network-thinking with mobility and post-phenomenological notions of embodiment and place, and thus becomes a relevant operationalization of our ontological framework.

We start out by looking at Malcolm McCullough's (2005) work on architecture and

[1]This and the following section expands and develops ideas described in the conference article "Employing mobile media technologies as a participatory planning tool in the suburban housing estate", presented at The Nordic Urban and Housing Research Network Conference, Roskilde, 17-19 September 2013

pervasive computing. One might ask why it is of interest for urban planning and architecture to engage with computing. How is it related to buildings and public spaces? The simple answer, which we will unpack in the following, is that digital technologies afford new ways of being and interacting with spaces and places, two categories which are fundamental to architecture and urban planning. It would therefore seem relevant to shed light on what digital technologies exactly afford these research fields and practices.

Fundamental changes to how computing is done are cardinal to the changes outlined above. As McCullough notes, the days are over when computers were only found on desktops in our offices. Computers are everywhere, embedded in the urban environment, in our pockets and handbags. One very tangible example is the smart phone which many of us carry wherever we go. We talk, we tag, we search location-specific information, we buy bus tickets, we check into localities. It all happens on the go with the help of our mobile devices and social media platforms. While doing so, we create a trail of data behind us, like Hansel and Gretel scattering breadcrumbs in the forest. As we shall see later, however, the way these digital "breadcrumbs" are distributed is far more complex than in the days of the Brothers Grimm. A less tangible example is the software embedded in our environment, orchestrating anything from dishwashers to air traffic control. Without this software 'glue' – referred to as code/space by Kitchin and Dodge – a mindboggling number of everyday practices would be at a standstill (Jensen 2012, Kitchin, Dodge 2011, Kitchin 2011). Thus, computers are omnipresent and the internet no longer resides in an abstract cyberspace; it is present in every little nook and cranny of our everyday lives and everyday places. This shift, or way of computing, is often referred to as pervasive computing. Where cyberspace got us out of place, pervasive computing – potentially – gets us back into place:

"Instead of pulling us through the looking glass into some sterile, luminous world, digital technology now pours out beyond the screen, into our messy places, under our laws of physics; it is built into our rooms, embedded in our props and devices – everywhere" (McCullough 2005:9)

In other words, networks have become localized; spaces of flows have become grounded. As opposed to the "anything-anytime-anywhere-new media paradigm in 1990s [the digital technologies] are centered on location-sensing capacities and aim to intervene or add to a specific here-and-now" (de Waal 2011:5). Along the same lines of McCullough, Gordon and de Souza e Silva argue that, quite literally, the distinction between bits and atoms no longer applies (Gordon, e Silva 2011). The two have merged as computing has become embodied and ubiquitous. When we carry a location-aware technology with us, like a smart phone, information becomes localized, mobile, AND networked. Everything, as Gordon and de Souza e Silva argue, has become located or locatable. One could add to this that there's nothing new in everything being locatable, as geography never ceased to exist. However, location has become networked and mediated in new ways. This change is termed networked locality, or net locality, by Gordon and de Souza e Silva and it forms an important element when trying to understand how we can engage with the GPS tracks generated during this research. What Gordon and de Souza e Silva's conceptualization also shows us is that networked, mobile interactions add a complexity to place rather than making it redundant. The interaction between technology and user potentially turns a seemingly neutral set of geographical coordinates into place, imbued with experience, emotion, memory, etc. This happens every time we check into a location on Foursquare or we post a picture on Facebook with a smart phone. The embodied interaction, enabled by location-aware technology, between the physical environment, the social context, and the

user, makes for a fruitful nexus where knowledge and information about how we use and perceive the urban environment emerge. What then becomes interesting is how we can utilize this 'sentient' entanglement to learn more about our cities, seeing as our engagement with technologies and localities tells a rich story about how cities are practiced. In other words, might these networked data crumbs we leave behind and might our appropriation, or augmentation (Manovich 2006), of spaces and places through networked interactions create an opening for enabling more engaging cities? A number of research projects described in the anthology "From Social Butterfly to Engaged Citizen" (de Waal 2012) would indicate that something is brewing.

Cities as digital engagement

If technologies enable greater citizen engagement, they also open up a more normative discussion on what type of cities we want. de Waal (2011) lines up a series of techno-urban imaginaries which might serve as a fruitful starting point for a discussion on what kind of city we want to promote in conjunction with the digital technologies at hand and the citizens inhabiting our cities. This dissertation draws in particular on three techno-urban imaginaries which de Waal discusses: 'The city as an operating system', 'Urban Flaneurs and Situationists,' and, finally, 'The city as collective engagement'. The three imaginaries are also closely related to the ethical discussion of the use of tracking and surveillance technologies in urban planning which will be unfolded in chapter 5, "Mobile methods".

'The city as an operating system' approaches the networked affordances of digital technologies from a top-down point of view. The OS approach views the city as an anthill and with the mobile, networked actions of the individuals living in the city, we can use digital technologies to draw up spatial and temporal patterns on how the "urban ants" move. By generating a real-time data loop based on real-time location data, the city suddenly becomes responsive. On a smaller scale, Skoubo's project from Kennedy Square in Aalborg shows how streetlights can be made responsive to movements of people through the urban environment (Poulsen et al 2013). What this shows is that, "Urban life takes place in the interaction between the citizens' sentience of the city and the city's sentience of the citizens" (Jørgensen 2011b). In this perspective, the city is viewed as a sensing organism made up of interactions between human and non-human actors:

"A sentient city, then, is one that is able to hear and see things happening within it, yet doesn't necessarily know anything in particular about them. It feels you, but it doesn't necessarily know you." (Shepard 2011: 31)

From a research perspective, the OS approach is endorsed by the Senseable City Lab at MIT (see fig. 8). The Senseable City Lab has done many illustrative projects that tap into the real-time city in order to capture and utilize the digital data breadcrumbs we all leave behind. One instructive example is the New York Talk Exchange project, carried out in 2008. The project captured and visualized all AT&T IP-data going in and out of New York City during a 24-hour interval. As shown in figure 8, New York is a highly 'global' city, represented by its many incoming and outgoing connections to the rest of the globe. However, what is more interesting, the data analysis reveals that New York's geography of talk has two dominant global faces: one is the financial elite, steering the global financial markets, and the other is the immigrant workers, those keeping the city's basic services running (Sassen 2008). The two geographies show both temporal and spatial patterns of how New York is connected in surprising ways with the rest of the world through telecommunications. The case shows, as equally illustrated with the case of the satellite dishes, that places are made up of virtual and digitally

enabled interactions, not just face-to-face communication. Places are constituted relationally and dynamically, and it is not always clear what and who is global and local. For an illustrative visualization of this point, please visit the MIT Senseable City Lab website and have a look at the animation 'The pulse of the planet', showing the 'pulse' of global telecommunication (http://senseable.mit.edu/nyte/visuals.html).

Following the City as OS-approach and the example drawn from Senseable City Lab, the networked tracking technologies enable us to draw up patterns of mobility and connectivity, thus helping cities to become smarter and potentially more responsive to citizen's actual uses. This type of engagement I would call 'aggregated engagement'. The data crumbs paint an aggregated picture of how our cities are practiced and performed in a network optic. The responsiveness embedded in this approach enables us to create 'smarter' cities, because we learn from actual uses and practices. But viewed in this optic, how do we then move from a smart city to a social city? This is when the 'flânuer' comes into the picture.

The techno-urban imaginary termed 'Urban Flaneurs and Situationists' by de Waal(2012:9) draws on Walter Benjamin's Flâneur and the Situationist movement. I will not go into detail about the work of either here. The point in this context is to emphasize the element of play, affect, and serendipity which de Waal draws from

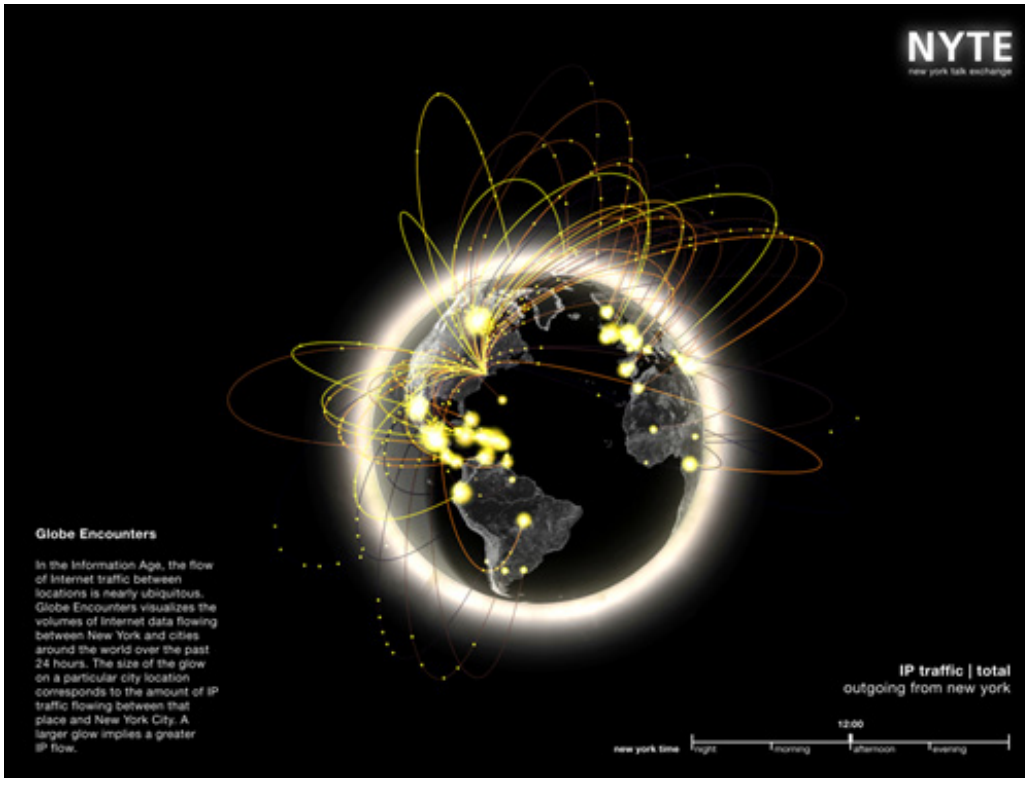


Fig. 8:. New York Talk Exchange,Senseable City lab MIT

Benjamin and the Situationists:

"Mobile digital devices, accompanying individuals as they move through space collecting embedded situated information, open up opportunities for people to restructure space effectively and to initiate more fluid and serendipitous activities and interactions in any place." (Paay, Dave & Howard 2007:451)

The playful aspect to our digital media technologies is closely related to the notions of embodiment and mediation discussed in chapter 3. The mobile body, in other words, becomes vital when looking at how digital media technologies perform. Without movements of people, without different views, dispositions, and preferences – say, when you post a picture with Instagram or when you rate a local restaurant online –there would be no networked interaction. As McCullough notes, "Place begins with embodiment. Body is place, and it shapes your perceptions. Embodiment is not just a state of being but an emergent quality of interactions." (McCullough 2005:27)

Digital media technologies therefore potentially mediate the embodied and affective aspects of the network city; while mediating aggregated 'top down' practices they simultaneously afford situated and embodied 'bottom up' experiences. This is an aspect that, in particular, artists have embraced. Dutch GPS-artist Esther Polak has worked with GPS tracking as a medium to create embodied and situated tales of networked lives (see fig. 9). The project 'Nomadic Milk' (Polak 2011) follows a Nigerian cattle herder and a lorry driver, distributing dry milk to shops around Nigeria, with GPS technology. The GPS tracks are mediated through a robot, which is programmed to draw up the GPS tracks on site. The GPS tracks are presented to the participants while the robot draws up their GPS tracks (see fig. 9). The confrontation with this representation of their everyday mobility and practices opens up a rich vein of mobile and embodied stories of a milk-related economy. In the video footage of the art work, we see the cattle herder, Mr. Idiris, enthusiastically pointing out exactly where on the route he lost an animal, and which places are the most difficult to negotiate with the herd. Abstract patterns drawn with sand simply make a lot of sense to the participants, because they reflect

Fig. 9. Robot drawing up GPS tracks. Photo: Esther Polak

the participants' everyday life. In our analysis of the GPS tracks generated in this research project, we will tap into the lessons drawn from Polak's project, and explore the nature of the representations created by the participants as a key to collect knowledge about how places are practiced in motion.

In a similar vein, Christian Nold set out to capture the emotional geographies of place by employing GPS tracking in conjunction with a bio-mapping device (see fig. 10). In popular terms, the bio-mapping device consisted of a small "lie-detector", recording the participant's emotional response to the urban environment through measurement of the galvanic skin response to the sensor carried by the participant. The device allowed Nold to record positive and negative emotional responses during the participants' walks through the city. Like Polak, Nold used the participants' emotional maps to

engage in a dialogue about the maps and how they had turned out. This gave an even more detailed look into people's emotional responses to the urban environment, many which were associated with memory and past experiences. The method thus allowed Nold to map the emotional and embodied geographies of place, a 'silent' geography otherwise hidden to the outsider.

The city as collective engagement

Like Polak, Nold used the participants' emotion maps to engage in a dialogue about the maps and how they had turned out. They both returned the collected location data to the participants in order to create a collective reflection and dialogue on their movements and relations to place. Both projects illustrate how the sensory capabilities of our digital media technologies allow an aggregation of data about the mobile individual. Because data is also based on the participants' embodied experiences of the urban environment, it allows for an interesting dialogue about how cities (and rural areas, as was the case in Nomadic Milk) are experienced and practiced from a distributed, peer-to-peer perspective. This potential taps into what de Waal labels 'The city as public sphere' and this techno-imaginary draws on an understanding of the city as a sphere where strangers come together and confront the heterogeneity and diversity of which a city is made. de Waal draws on Sennet's conceptualisation of the public sphere, but Hajer and Reijndorp's understanding of the public domain as "those places where an exchange between different social groups is possible and also actually occurs" (Hajer 2001:11) is also instructive. In the case of Nold's emotion maps, the participants saw their own GPS tracks and responses to their neighbourhood in relation to the other participants. By presenting data as a collective assemblage rather than in isolation, the GPS tracks enabled the formation of a public around their neighbourhood. By employing data as a shared, although not homogenous, resource, it presents different perspectives of how we understand our cities, and, in turn, it might enable a conversation about how we might want to see them develop. What is interesting about the affordances in mobile media technologies is that it allows these publics to come together in a networked fashion which bypasses the traditional top-down/bottom-up dichotomy in urban planning. This potential will be unpacked and explored with the empirical work carried out in Aalborg Øst:

Fig.10: Emotion map. Illustration Christian Nold

"For decades policy makers, institutions and architects have tried to persuade people to actively participate in shaping their cities. Often these remain top-down trajectories. The bottom-up extreme is a community model rooted in proximity, shared interests and similar lifestyles.

Yet this denies the nature of cities as places of heterogeneity and the fact that many urbanites shiver at the thought of village-like parochialism. With digital media new networked publics can be activated, beyond top-down or bottom-up but peer-to-peer and distributed." (de Waal 2012)

The city as an embodied practice

Departing from Polak and Nold's projects, we now land the helicopter and take a final look at the network city from an embodied perspective. What does the city look like through our different embodied practices of mobility?

With the aid of McCullough and Ihde, we already looked at how technologies and bodies enmesh. The understanding of this entanglement is an important prerequisite for getting to grips with how the city is practiced and experienced from an embodied perspective. With the 'cyborg' perspective in mind, we now take a look how the body has been dealt with in urban theory. The work presented in the following is included in order to provide us with a vocabulary when looking at the city from a practiced and embodied perspective. This vocabulary will be brought into play when later analysing how the participants make sense of their city. As Simonsen notes, maybe rather obviously but importantly nevertheless,the body is always in place (Simonsen 2000:73). We would therefore like to argue that the body is a relevant perspective to bring into play while still bearing in mind the post-phenomenological sensitivity towards embodiment and materiality and how they are co-constitutive of each other, as discussed in chapter 2.

Already more than a century ago, the work of urban sociologist George Simmel accentuated the importance of looking at how the city is performed from a bodily perspective. With his sensitivity to how the rhythm of urban life was so radically different to rural life, Simmel was concerned with studying new forms of interaction in the city. Simmel describes the hectic pulse of the city and its never-ending bombardment of the senses. From this observation stems one of Simmel's most famous concepts, the notion of how the city dweller becomes blasé. Simmel's thesis was that in order to shield himself from this intense attack on the senses, the city dweller would distance himself emotionally from his peers. In this way, the stranger appeared on the scene, an essential condition to urban life, which was liberating as well as alienating. Through his sensitivity to the inter-human interaction, Simmel introduced a novel, cosmopolitan understanding of how the individual interacted on the urban scene; an individual cut loose from religious and community ties. He was a stranger amongst strangers and this 'urban condition' pinpoints an ongoing tension in how urban life has been embraced as well as criticized up until this date.

Roughly fifty years later, Canadian sociologist Erving Goffmann (1959) refined Simmel's view on how the interactions take place between strangers in the urban setting. Drawing on a dramaturgical metaphorical back catalogue, Goffmann saw the urban as the stage where people negotiate the public and private spaces that emerge through the interaction between strangers. The individual 'presents' itself in a continuum between an autonomous self and the social context with which he interacts. From this framework surfaces the notion of how social performances are staged. In this continuous negotiation and presentation of 'the self', transient front- and backstage demarcations appear. These front-backstage negotiations take place when we, for example, employ our mobile phones to carve out a backstage space on a busy train; while at the same time this practice sometimes becomes a performance transgressing the backstage spaces of fellow passengers and thereby very much becomes front stage. Please see Jensen (2010b) for a

view on how these front-backstage negotiations take place in motion. In a later chapter I will use Goffmann's front-backstage concept as a way of framing how the survey participants engage with the urban environment as a result of the social context they negotiate through in their movements through the city.

Following the classical work of Simmel and Goffmann, I now want to introduce, in conjunction with each other, the work of Jean Francois Augoyard and Michel de Certeau as a relevant

Fig 11: L'Arlequin. Foto: Kawai Architects

contribution to how we can understand how people make sense of the urban environments they navigate. de Certeau, being the more famous of the two, is renowned for his conceptualisation of spatial strategies and tactics. Augoyard is, however, equally interesting, as he in many ways shaped the empirical backdrop for de Certeau's work.

Augoyard's work "Step by step - everyday walks in a French housing project" (1979/2007) is a highly applicable ethnography, carried out in l'Arlequin, a 'new town' in Grenoble in the late 1970s. L'Arlequin was planned according to modernist planning principles, as outlined in chapter 2. When Googling l'Arlequin, images of riot police and burnt-out cars appear telling a familiar story of the failure of the grand modernist vision. Augoyard's work is also a clear critique of the disenfranchising and homogenizing conditions embedded in the modernist plan, clearly related to other critical voices of the time like Jane Jacobs and Relph. One may or may not agree with Augoyard's damming critique of the modernist plan, but what is interesting about his work is that he shapes his investigation of the modernist housing estate around a counter-narrative based on the everyday practices of residents living in l'Arlequin (Augoyard 2007:8)

Augoyard sets out to investigate how residents of l'Arlequin actually make sense of the seemingly oppressive built structures they inhabit by following the residents' footsteps around the housing estate. Through a series of walk-along interviews Augoyard develops a rich and detailed 'rhetoric of walking'; a language developed through modes of walking and negotiating the built, but also the emotional, environment of the housing estate. Augoyard, in other words, looks at how the residents draw up the spaces they live in, and thereby also make them inhabitable. Augoyard's point is that the panoptic vision of the housing estate will always remain a conceptual space, drawing on Lefebvre's trialectic understanding of space (Lefebvre 1991). The lived, and perceived, spaces have to be approached from a different perspective, from the body:

"The question of the body of expression invites one to rediscover the experience of the body before knowledge, before the mediation of relations of significance. We shall 'reawaken' this experience of the world by rereading the inhabitants' narratives in another manner. The pregnancy of their everyday atmospheres and the immediacies of their sensorimotor activity will be our Adriane's thread" (Augoyard

2007:116)

What is interesting about Augoyard's approach to his analysis of the modernist housing estate is that he explicitly aims at "proposing a transitory and transitive way of formulating the question of inhabiting" (Ibid, 2007:178). In other words, he is more interested in investigating the urban as a how rather than a why:

"Perhaps what is then needed to settle is not the immediacy of the plurality of modes of inhabiting and to stay [séjourner] there for a sufficiently long time without knowing in advance if these modes are causes, effects, or something else (...) It would be necessary, in short, to postpone for some time the repetition of our 'why' question and to give free rein to the 'how'- that is to say, to substitute a modal type of interpretation for a causal type of explanation." (Ibid,2007:18)

Augoyard calls this ambulatory practices; he looks at how meaning and inhabiting emerge through (mobile) practice. The focus on practice ties in well with the overall ambition of looking at the (sub)urban as something emergent:

"The referent for one's walks is not the simultaneity of a planned spatial whole but, rather, at each moment of the stroll, the coexistence of the different instantiated principles involved in everyday life. The explication, the development in the movement of this coexistence, resembles a sort of creation, and through this creation the space into which one has gone takes on this or that quality, depending on the occasion, but no longer has any permanence of its own (except in representation and on maps)." (Ibid, 2007:17)

As we will later see, the GPS maps become fleeting representations of the transient nature of practice; they create a dynamic permanence to the movements of the participants. In this way, the mapping method supports Augoyard's ambition to accentuate the modal aspects of urban life. His notion of ambulatory practices will furthermore be employed in the section on walk-along interviews.

Augoyard's rich, empirical investigation of l'Arlequin greatly influenced de Certeau's work on everyday life. A clear kinship emerges when looking at their work comparatively. de Certeau (1984) works with the notion of spatial strategies and tactics. He introduces his often-quoted chapter "Walking in the city" by taking a look at Manhattan from the World Trade Center, the ultimate panoptic view of the 'ant hill':

"When one goes up here, he leaves behind the masses that carries off and mixes up in itself any identity of authors or spectators. An Icarus flying above the waters, he can ignore the devices of Daedalus in mobile and endless labyrinths far below. His figure transforms him into a voyeur. It puts him at a distance. It transforms the bewitching world by which one was "possessed" into a text before one's eyes. It allows one to read it, to be a solar Eye, looking down like a god." (de Certeau 1984:92)

Much like Augoyard, de Certeau objects to the totalizing vision implied in the modernist urban plan – it is "an oblivion and misunderstanding of practices" (Ibid, 1984: 93) with reference to Foucault's "Discipline and Punish" (Ibid,1984:45). The panoptic view is what de Certeau terms 'strategies' (Ibid,1984:35). Strategies are, in line with Lefebvre's representations of space, a conceptualized and ideological appropriation of space. The applied spatial dimension to a strategy creates an alignment between ideology and practice – say, when we as pedestrians adhere to a red stop signal, allowing cars to pass a traffic intersection.

'Tactics', on the other hand, are the spatial appropriations and negotiations carried out by all

those people meandering through the streets underneath the high rises of New York. What is interesting in this context is that de Certeau urges us to take a plunge into the routine of urban life; and insists on following the invisible trajectories of those who weave the city together by their everyday doings:

"The networks of these moving, intersecting writings, compose a manifold story that has neither author nor spectator, shaped out of fragments of trajectories and alterations of spaces: in relation to representations it remains daily and indefinitely other."

While Augoyard and de Certeau both favour the pedestrian as the 'true' emancipated hero, counteracting the oppressive spatial strategies of modernism, this stance needs to be challenged. Firstly, by privileging, and even romanticizing, the pedestrian over other forms of movement, de Certeau and Augoyard ignore other emergent urban formations and practices (Thrift, 2004). Even if we in our walk-along interviews stress walking as the form of movement around which the conversation is structured, we are not blind to other forms of movement that shape the participants' everyday life. In fact, the dynamic nature of our GPS data shows us the highly mobile nature of everyday life, as we will explore in a subsequent chapter. Secondly, as this dissertation draws on a transient understanding of how the urban is constituted, the dichotomous positions outlined in particular by de Certeau are not entirely fruitful. De Certeau helps us to understand what the city looks like from an 'ant's' point of view, how a myriad of life and embodied interactions and practices emerge from the streets – however, always in opposition to an oppressive panoptic perspective:

"It produces a sense of a beleaguered, localized (though not necessarily local) 'anthropological' everyday of poetry, legend and memory being squeezed by larger forces, thus embedding a distinction between large and small, practice and system and mobility and grid, which is surely suspect (...)" (Thrift, 2007:78)

I would argue that, in this context, the strict distinction between the top-down and the bottom-up view, between the oppressor and the oppressed, is not warranted. We already saw, as de Waal argued, that with the affordances embedded in our mobile media technologies, the distinction between bottom-up and top-down don't apply anymore. Social interactions are increasingly becoming distributed in a non-hierarchical fashion. GPS tracking would probably, in the view of de Certeau, be perceived as an oppressive control-mechanism, a spatial top-down strategy par excellence. As we will see in a later section on the ethics of surveillance technologies, this critique surely is justified. However, as we will also see later on in the analysis of our GPS maps, top-down, aggregated spatial data may also stimulate more participatory and emancipatory forms of planning and thereby widen the scope for engaging the civic in city making – exactly because location data makes visible the invisible narratives of everyday life championed by de Certeau (Thrift, 2007:87).

Finally, we take a look at the city as register of affect. The affective and non-representational theory, for which Nigel Thrift has become a major front-runner, is an expansive field which will just be touched upon briefly here. However, it is worth bringing the notion of affect into play. Thrift identifies four different strains of 'affect', of which we will draw on the one associated with a phenomenological tradition. As Nigel Thrift points out, the affective aspect of urban life has largely been ignored in urban theory (2007:172). Thrift's critique of de Certeau's fondness of the pedestrian aside, de Certeau does actually point us in the direction of an affective perspective to the urban when he objects to the cartographer's efforts of transforming action into legibility:

"It is true that the operations of walking can be traced on city maps in such a way as to transcribe their paths (…) and their trajectories (…). But these thick or thin curves only refer, like words, to the absence of what has passed by. Surveys of routes miss what was: the act itself of passing by." (Thrift 2007: 97)

de Certeau's critique, though not explicitly addressing the affective, is echoed by Thrift (2007) when investigating why this aspect has been neglected in urban theory: "One [reason] is the residual cultural Cartesianism (…): affect is a kind of frivolous or distracting background to the real work of deciding our way through the city." The affective, in other words, is difficult to capture and represent even if it makes up for an important aspect of how the city is practised and valued and it is an interesting parameter when trying to come to terms with "the act itself of passing by," paraphrasing the above quote by de Certeau. The affective aspect of non-representational theory appears useful when trying to engage with the hybrid geographies which occur in the interplay between GPS maps and spatial practices explored in the walk-along interviews. Being closely related to actor-network theory, non-representational theory is disinterested in binaries and dichotomies; it is disinterested in what things and people represent. Instead, the focus is on what things do; much like Augoyard's focus on modality rather than causality. In his non-representational ethnography "Ferry Tales", Phillip Vannini (2012) writes:

"The key focus of representational research is on what things symbolize, what they denote and connote, what codes they inform, what values they defer and refer to, etc. Instead, the key concern of non-representational theory is on what things—material objects, performances, discourses, etc.— do. Semiotic and material resources act in virtue of their power in an ecology of many other actors. Non-representational ethnography, therefore, shows how the actions of actors are consequential not in light of what they stand for, but in light of what they achieve, how they work, what they afford, whom they serve, and how so."

Nold's project on emotional geographies is an example of how this challenge of capturing the 'more-than-representational' might be addressed methodologically; however, Nold's mappings had not been worth much in a non-representational perspective was it not for the information-loop, feeding the participants' emotional responses back to them, letting them reflect on their own experiences along their walks. I will draw on the affective, non-representational aspect when later engaging with the respondents' GPS mappings in the walk-along interviews.

Summary / drawing up the theoretical kaleidoscope

This chapter sought to bring the ontological framework into action by looking at how ANT and post-phenomenology have inspired writings within the field of urban theory. Beginning with Castells' spaces of flow, we took a look at how networks form across the globe. If we paired Castells' analysis with Senseable City Lab's New York Talk Exchange project, we might have a visualisation of what these spaces of flows might look like, viewing the planet from a satellite in space. We then moved to Graham and Marvin's analysis of infrastructural networks, and how they both bind together and untie people's everyday lives. This led us to take a look at critical mobilities studies which inserted a more practiced, empirical, and embodied perspective to our operationalization of the relational and emergent aspects of ANT. Following the embodied perspective, we looked at how the informational spaces of flows of Castells' are actually grounded and embodied; computing no longer resides in an abstract sphere, but takes place and is enabled by moving, sentient bodies. This, in turn, has led to an increasing potential for citizens to engage with places – and the co-shaping of places – through digital grounding. We finally left the satellite for good and followed Augoyard, de Certeau, and Thrift on a walk around the everyday places people inhabit to get a sense of how they come into being.
When reading this theoretical kaleidoscope, it is important not to read them as a rigid scale of networks but rather as perspectives which continuously inform and shape each other. This brings us back to the quote by Farias, framing this chapter:

"Sites are defined not by spatial boundaries or scales, but by types and lines of activity, and spaces emerge through the networks connecting different sites." (Farías, Bender 2010:6)

With this quote in mind we now move on to look at how we might do research informed by mobility and emergence; in other words, with which methods do we bring the theoretical framework to life?

MOBILE METHODS

05

Mobile methods

Mobile methods as a research strategy

A research design is inevitably made up of decisions which shape the output of the research. While those decisions must be deliberated and well thought out, it is important to maintain a flexible approach to the research design. A research design will always need to be redesigned as work progresses because research in real life never follows the plans we draw up in our research labs. In this chapter we therefore look at how I methodologically operationalized the theoretical framework drawn up in chapter 3 and 4. We look at what worked, what didn't, and which alterations had to be done as I went along.

If the mobile and the emergent is a key parameter from which we understand how cities and societies function, how then do we actually investigate these phenomena? As already discussed in chapter two, methods are performative, they enact realities and 'for messy worlds we need messy methods'. If the worlds we study and engage in, and ultimately co-create, are emergent and transitive, we also need methods that are dynamic and capture the mobile. This theme – how to capture the mobile – is, not surprisingly, an emerging theme within critical mobility studies (Büscher, Urry & Witchger 2010:7) Retrospectively, this endeavour to capture the mobile as a practice is not novel. See Tim Cresswell (2006) for a perspective on how the mobile body has been dealt with in past theoretical studies. Furthermore, Torsten Hägerstrand's research on time-space geography in the 1970s forms an important framework for how we can methodologically capture mobile everyday lives. However, in parallel with our (meta)theoretical framework, the call for methods that are sensitive to mobile and transient remain significant.
Because of the fleeting nature of what I study, there is no such thing as one appropriate method for studying the mobile. Methods need to be hybrid in order to capture the hybrid spaces we inhabit and perform. Büsher et al (Büscher, Urry & Witchger 2010) cover a vast array of mobile methods in the book of the same title. The list is not exhaustive and neither are the methods employed in this study.
I seek to operationalize the research paradigm of enactment and embodiment through GPS tracking and walk-along interviews. In a separate chapter I deal with mapping as research tool. Together, the methodological iterations form an assemblage which I will unfold in the following. In chapter 9 I will again unfold these methods and look at how and what they perform and enact.

Firstly, we look at GPS tracking. What is its origin, what are the ethical considerations implied when working with tracking technologies, why is it a useful method and finally, how did we employ GPS tracking? Secondly, we look at the map as a research methodology. How can we work with maps as a way of collecting and representing dynamic data assembled with our GPS tracking technologies? Finally, we look at the walk-along interview as a hybrid method combining aspects of ethnographic research and the interview as a way of engaging the embodied aspects of our tracking and mapping methodologies.

GPS tracking as research method

What is GPS?

In a Danish context, relatively few research projects have been carried out on the methodological potentials of employing GPS technology as a tool to collect information about spatial behavior, and subsequently, as a planning tool. The PhD project is a part of the wider research project "Diverse Urban Spaces", based at the Department of Architecture, Design and Media Technology, Aalborg University, Denmark. The research group investigates the potentials of applying GPS technologies in the context of urban planning (Harder, Bro & Knudsen 2010,

Henrik Harder Thomas Alexander Sick Nielsen Peter Bro Nerius Tradisauskas Henrik Skov Anders Knørr Lyseen 2008).

Tracking technologies, however, are becoming increasingly widespread in our everyday lives. A lot of us carry smart phones with built in GPS devices, and satellite navigation systems for cars have become commonplace. In chapter 4, we looked at the theoretical implication of this increased location awareness embedded in our everyday lives. The dissemination of these tracking and sensing technologies is striking, considering it was only in 1994 that the United States' Global Satellite Navigation System (GPS) was made available globally.

The notion GPS is, as mentioned above, associated with the American satellite navigation system. There are, however, many other systems operating, such as the Russian GLONASS and the EU system Galileo, which is currently under development as a supplement to the American system. The US' GPS was developed originally by the US Department of Defense in the early 1970s as a system that would allow a global, effective, and precise military navigation. The basic idea of the system is based on measuring the distance between satellites orbiting the earth and GPS receivers. The satellites send out signals which the GPS receivers pick up and, through triangulation, calculate the position of the device (Dueholm, Laurentzius & Jensen 2005:9-11). With a GPS receiver in the pocket, one is able to continuously track the position of the receiver and thereby track the person or vehicle carrying the receiver. This opens up a vast array of possibilities for collecting location-specific data, which can be used for analysis of movement patterns, be it of people, animals, goods, or vehicles.

In the following section we will look at how we applied GPS tracking as research method: which devices were employed, what was the survey set-up, what was the quality of the data collected? How did we apply the method?

The GPS tracking device

For the GPS-survey, the Lommy Phoenix was employed – for more detailed information on this type of GPS device please see Kvist Simonsen et al, 2007. The Lommy is roughly the size of a small mobile phone and has a built in GSM (Global System for Mobile Communication) and GPS unit. Through the GSM unit the GPS unit logs online and, in real-time, sends to a server information about where the given GPS unit is located and how long the unit spends at a

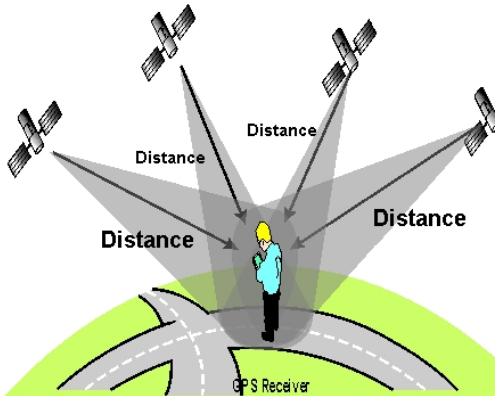


Fig.12: How GPS tracking works

Fig. 13: Lommy Phoenix

given position. The GPS unit furthermore logs how fast it is moving. For this particular survey the Lommy was programmed to log its position every ten seconds.

The survey set-up
The purpose of the GPS survey was to map the movements of a group of young people living in Aalborg Øst over a period of 7 consecutive days and the survey was carried out in week 23 and 24, 2011. The aim was to get a sample of half boys and half girls. Even if I was not making a representative study, I wanted the group to reflect the ethnic composition of Aalborg Øst. I furthermore wanted to include participants who lived in either social housing or single-family dwellings, the two most dominant forms of dwelling in Aalborg Øst.

In order to recruit participants for the survey, I contacted Vibeke Biegel from Projekt 9220, a housing regeneration project in Aalborg Øst. Through her work with young people in the neighbourhood, Vibeke is a gatekeeper to many social networks in Aalborg Øst and she was able to recruit ten participants: six girls and four boys and all grade nine students from local schools. The remainder of the participants were recruited through a dancing programme for girls at Tornhøjskolen, through an after-school club for boys, and through the first "batch" of participants who recruited participants from their own social networks. In total, we ended up with 12 boys and 7 girls between the ages 15 and 19. The recruitment process started out in January and wasn't completed until we actually started the survey in week 23 (June 6-12). Another small group of 3 boys did their tracking in week 24.

Prior to the survey, participants under 18 had to get their parents' written consent (see appendix 1). All participants were furthermore informed about the ethical and practical implications of the survey (see appendix 1). As a standard procedure, the survey was registered with the Danish Data Protection Agency (see appendix 2). As a part of the set-up, the participants were each awarded a 500 kr. gift certificate to Salling after completing the survey and returning the GPS device.

Drawing on previous experiences from a similar survey in Vollsmose, Odense, we decided to hand out the GPS devices dropwise, rather than handing them out at the same time, as each participant needed individual instructions in order to operate the GPS device correctly. Even if the instructions are fairly straightforward (see appendix 3), it is logistically too complicated or-

9220
AALBORG ØST

Fig. 14: Logo of Projekt 9220 - a housing regeneration project in Aalborg Øst

Fig. 15: Tornhøjskolen in Aalborg Øst

chestrating a handout of 20 GPS devices at the same time. I therefore coincided the handout with Beboerkaravanen, a local community festival at Blåkildevej in Aalborg Øst (see appendix 4). This allowed for the participants to drop by and pick up their GPS device whenever it was convenient. Along with my colleague Ditte Bendix Lanng, I furthermore brought along a large map of Aalborg Øst and asked people to pinpoint their favourite place in the neighbourhood. I will elaborate on this event in chapter 8. The map enabled a dialogue, not only with participants, but also with passersby about Aalborg Øst and provided us as researchers with the first "contextual" layer to the survey.

When the participants picked up their GPS devices, they all registered their home address, name, age, gender, occupation, telephone number, email address, and Iommy-ID in an online form (see fig. 18). This information was kept in a database in order to store data for later analysis.
Once the participants were registered with the database, their GPS data was then visualized in an online web interface (see fig. 16). In order to protect the privacy of the participants, only

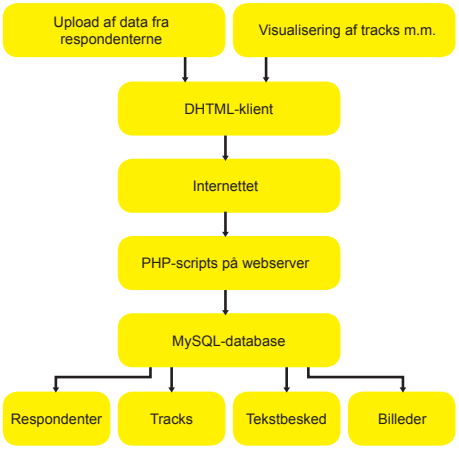


Fig. 16: Database

their usernames, age, and gender were made publically visible. Secondly, tracks were shown as 24-hour intervals with a 24-hour delay. Thirdly, data from the home addresses were blurred within a square of 50x50 meters.

Quality of the data
Because the GPS devices were handed out dropwise, the participants' data logs were staggered and the data collection was spread out through a period of two weeks. It also turned out that the majority of the participants were studying for exams during the survey period. This affected the data, as the participants were moving about less than they normally would have been. It is, however, debatable what exactly constitutes "normal" movement patterns, as our daily mobility is affected by many factors such as the weather, holidays, work type, etc. This only goes to show that it would require very extensive data sets in order to assemble a general picture of peoples' movement patterns.

In principle, the participants should be able to log data continuously throughout the survey period. In practice, the data logs were more uneven. One source of error was the battery life of the GPS device. Throughout the survey the participants were reminded via a text message if the battery levels of their GPS device were low. Still, some forgot to charge the battery, which left blank spots in the data log. Secondly, from previous surveys we have found that the participants easily forget the GPS device at home, because it is not an integrated part of their everyday routines. In other words, the data aggregated during the survey period is not a flawless representation of the whereabouts of the participants and should therefore not be treated as such, despite the persuasive quality of the GPS maps.

Ethical implications and considerations
As briefly discussed, different measures were taken in order to protect the privacy of the participants in the online data visualization.

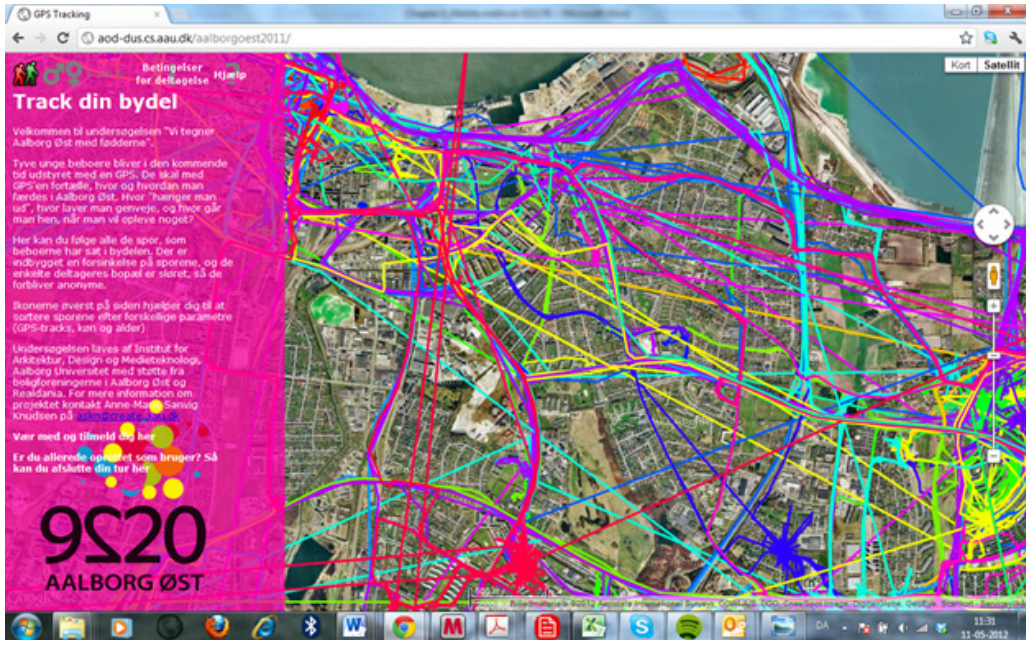


Fig. 17: Online visualisation of GPS tracks

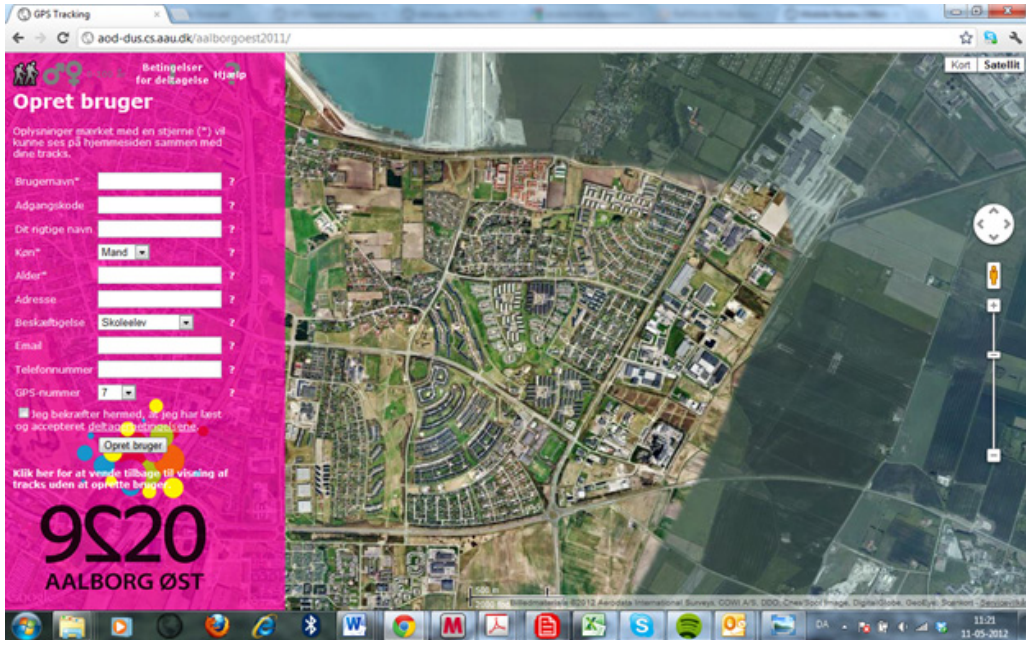


Fig. 18: Online registration

Why was this important? Location data is telling, and therefore, ethical considerations must be done before doing research with surveillance technologies and location data. In this section we assess some of the ethical debates concerning surveillance technologies. It is an extensive topic and it is not within the scope of this dissertation to fully unpack this debate. While this research project positions itself within a 'privacy pragmatist' discourse (Gordon, e Silva 2011:138), it is still important to remain critical and reflected about the ethical implications of the technologies we apply. Mike Davies "City of Quartz" and Stephen Graham's "Cities under Siege: The new military urbanism" outline more unsettling aspects of surveillance technologies.

Many of the ethical concerns raised about surveillance technologies are related to what de Souza and Gordon (2011) term "net locality." Not only do surveillance technologies allow us to track where we are, but they also track what we do, and those actions are tangled up in an intricate web:

"Net locality cultivates a mastering of one's position in the network, but it also provides the conditions for one to be mastered by the network" (2011:133)

Because one's location is becoming an important part of how we stage ourselves and narrate our identities, networked location data is inevitably public, and this has negative as well as positive consequences. Therefore, de Souza and Gordon argue for an understanding of surveillance which is much less top-down and much more circular. See also Molz (2006), who applies Foucault's notion of technologies of self as a way of capturing decentralised and networked social relations. Surveillance is not just an invisible Big Brother who is watching you – we are all watching each other and therefore the surveillance issues are much more about "who gets to control our personal location data and how [do] we control the data of the locations we occupy" (Ibid, 2011:135). Tapping in to the control issue, de Souza and Gordon pinpoint two concerns related to location data: one relates to the Big Brother issue of governments or commercial actors who collect our location data with more or less dubious intentions. The other issue concerns collateral surveillance: disclosing your location to your peers.

Looking at the Big Brother issue, it encompasses both positive and negative surveillance aspects. Positive when city planning authorities can collect location data about their citizens in order to optimize their services to them. Negative when surveillance spills over and becomes a total-surveillance dystopia, along the lines of the film Minority Report. The fury surrounding the BlackBerry Messenger and other social media in the aftermath of the riots in England in 2011 illustrates this challenge. Suggestions made by politicians were simply to ban BlackBerry Messenger, because the service can bypass the police's surveillance 'radar' and therefore enable people to organize protests out with the police's control (http://www.guardian.co.uk/media/2011/aug/11/david-cameron-rioters-social-media). This raises obvious questions relating to freedom of speech and whether the affordances of total surveillance embedded in our mobile communication devices also, and rather ironically, justify a ban of network technologies that don't enable total surveillance. Similarly, commercial location-based services (LBS) are positive when they help you find that hidden gem you didn't know you were looking for. On the other hand, they are problematic when they assume to know everything about you and end up hiding relevant information from you that might challenge or broaden your outlook, also referred to as 'filter bubbles' (Pariser 2011). Or when it becomes unclear as to why commercial actors collect location data about you. This became very apparent in the spring of 2011 when a privacy scare erupted as it became known that Apple had collected loca-

tion data on its iPhone customers without their consent. This was perceived to be particularly invasive, as the information was stored on mobile devices and was easily accessible to anyone with physical or remote access to the phones.

Concerning collateral surveillance, this issue similarly raises concerns regarding the control of one's location data and thus one's privacy. Sometimes we want to disclose our location as a part of staging our social identity or it might help you locate your friends at a busy gig at the Roskilde Festival. But if you have called in sick to work, you don't want your boss to see you check in at Starbucks on Facebook. And maybe you don't want your partner to know that you are shopping for an engagement ring for her. In relation to collateral surveillance, it is relevant to discuss the notion of sousveillance. Sousveillance stems from French – "sous" (below) and "veiller" (to watch) – and inverts the panoptic character of surveillance (Mann, Nolan & Wellman 2003:332). Mann refers to sousveillance as the surveilled surveilling the surveillor and likens it to holding up a mirror: "Do you like what you see?" (see fig. 19) Sousveillance is often associated with more political counter-agendas. Wikileaks might be the most prominent example of sousveillance, but the use of social media as a vehicle for organizing and making the Arab Spring visible is also a very recent example of sousveillance. A whole practice of making films with data sourced from CCTV cameras, called video sniffing, has also emerged. Manu Luksch is one such artist who uses CCTV footage in her art work (http://www.ambienttv.net/content/?q=about). Implied in the notion of sousveillance is a sense of reflection: by holding up a mirror and asking ourselves if we like what we see, we also implicitly look for new solutions and better ways of doing things (Mann, Nolan & Wellman 2003:333).

Now returning to de Souza and Gordon's circular surveillance concept, it is not just Big Brother watching us; we are all watching each other. How might we work with the emancipatory and participatory potentials of sousveil-

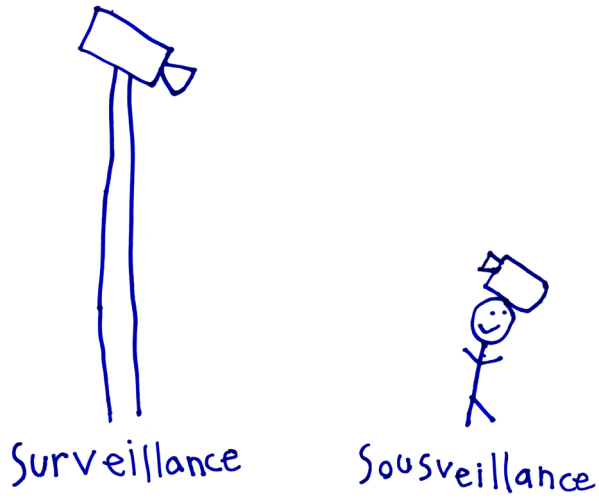


Fig. 19: Sousveillance

lance within this circular surveillance concept? As Albrechtslund et al argue, "participation is not only related to a certain version of surveillance, but a general characteristic of surveillance" (Albrechtslund, Lauritsen 2013:5). The point is that participation by a given ensemble of actors is a prerequisite for surveillance to persist, at least when looking at it from an ANT-perspective as Albrechtslund et al do. How do we turn this participatory "condition" into an asset and use it proactively? This is something I discuss in chapter 10, but to illustrate the point I want to briefly draw on Usman Haque's project, Natural Fuse (see fig. 20):

"Natural Fuses allow only a limited amount of energy to be expended; that amount is limited by the amount of CO2 that can be absorbed by the plants that are growing in the system – natural 'circuit breakers.' By networking them together, the plants are able to share their capacity and take advantage of carbon-sinking-surplus in the system since not all Natural Fuses will be in use at any one time." (http://www.haque.co.uk/natural-fuse.php)

It is up to user to decide to what degree they want to strain the system, but because all the Natural Fuses are networked, the consequences of one's consumption is made visible; another plant might die elsewhere in the network if we expel more carbon dioxide than the system can absorb. The idea of the project is thus to generate a networked consciousness which might make users collaborate in order to distribute the discharge of carbon dioxide in a more sustainable manner.

Fig. 20: Natural fuse. Photo: Usman Haque

The walk-along interview as a research methodology

An interview can be many things and serve many purposes, but simply put, "the interview is a conversation with a structure and a purpose" (Kvale, Brinkmann 2008:19), own translation. So what is the structure and what is the purpose of the interview carried out in this research project?

The interviews have been framed around the walk-along method, based on a series of open-ended questions covering different theoretical aspects of our study. For a more detailed exploration of the interview guide, please see appendix 8. The purpose of the interview was to get beyond the 'moving dots' and get a glimpse of the everyday lives as they were performed by the participants in interaction with their surroundings. In particular, I wanted to investigate how the teenagers made sense of the urban environment, drawing on Augoyard's notion of ambulatory practices. Secondly, I wanted to investigate the teenagers' uses of the urban environment from a Goffmanian perspective: how do the participants use the urban environment as a way of staging their social interactions? This theme is particularly prominent within research on teenagers and urban planning and therefore called for an investigation. Thirdly, on a more generic level I wanted to test whether the fusion between GPS maps and walk-along interviews opened up a participatory way of collecting information about peoples' uses of the urban environment.

As Kvale and Brinkmann note (2008:66), there are two ways of looking at the interviewer's role. One is the mineworker who digs out hidden, objective meanings and causalities. The other approach is likened to the traveller, who approaches the interview as a process, as an exploration of unknown territories. The latter approach follows the broader intentions of the study, which is to explore the urban as an emergent phenomenon by drawing on how people enact and perceive the urban. This, however, doesn't bring the interview beyond the interview-situation, which will always to some extent be distorted by uneven power relations between the interviewer and the interviewee. If the basic premise of the interview is not to uncover objective truths, but rather to sample perspectives on realities as they are enacted, then this distortion is less problematic. The interview is therefore informed by a (post) phenomenological approach, exploring how places are experienced and mediated through the body and technologies.

In the following we will explore the hybrid between walking and interviewing as a fruitful way of exploring the mobile lives of our participants from an embodied perspective:

"We can often explore a new place most fruitfully by walking through and around it. For the anthropologist, this in turn leads to the realization that we have to understand the routes and mobilities of others (Lee, Ingold 2006:68)

Why walking?

"It is with the body that mobility starts. It is through the body mobility is experienced. The body is mobility's first and last instance" (Cresswell 2006:58)

"Walking is not just what a body does; it is what a body is. And if the body is a foundational to culture, then walking – or thinking in movement – is 'foundational to being a body'." (Ingold, Vergunst 2008:2)

Starting from Cresswell's observation, I want to show why the mobile practice of walking was chosen as a way of framing our interviews. An overall concern with the walk-along interviews was to recall the importance of the body as a key in the enactments of the urban and the GPS mappings. This method is also chosen as

a way to make "the moving dots" talk. Without this qualitative layer and engagement with the data, GPS tracking may remain silent, at best. At worst, it creates the opportunity for (causal) misinterpretations, which in turn create misrepresentations. The interviews do, however, emphasize walking as a practice over many other forms of mobile practices. As we saw in chapter 4, the wandersmänner has been a somewhat privileged and romanticized, yet not entirely unproblematic, figure in urban theory.

To some extent echoing this romantic understanding of the pedestrian; in some 'mobility' cultures, such as the North American, the pedestrian has even become a curiosity and thereby also a political figure, counteracting a dominant culture of private automobility. Within the critical mobility literature, however, we find a rich source of research on other types of mobile practices such as cycling, running, driving, and dancing, to name a few. The reason why I point this out is that our respondents' everyday lives are of course made up of many types of mobile practices other than just walking, such riding bikes, scooters, and buses.
The research project investigates teenagers' uses of urban spaces, and for this group, specific factors decide their ways of being mobile and to what extent they are mobile. In chapter 7 we will take a closer look at how teenagers are dealt with in planning theory, and, implicitly, how this affects their mobility. In this context it is important to explain why walking was chosen as the mobile practice around which we structured our interviews. Firstly, most of the respondents were under 18 and therefore restricted from driving cars. Secondly, walking is a prominent mobility practice among teenagers as a way of appropriating urban spaces and performing social relations; in chapter seven we will look at why this is. Scooters also figured as a key mode of transportation amongst many teenagers residing in Aalborg Øst. This mobile practice would form an interesting future study, as the scooters enabled different forms of social interactions as well as being the source of conflict between other mobile practices. Please see Nina Vogel's work on the ambivalent mobilities of scooters (Vogel 2010). Many, especially pedestrians, perceive scooters as a safety concern, in particular when small children are out walking and playing in open green spaces. Driving, and car-ownership, was also an important social aspect which some of the respondents touched upon. However, this aspect of social interaction and appropriation of urban spaces related to young people and cars will not be explored in this context. Finally, the practical feasibility of carrying out a walk-along interview as opposed to a drive-along interview (bikes, scooters, buses, or cars) was much more manageable seen from the researcher's perspective, even if other modes of mobile practices granted would have been equally fruitful.

By choosing walking over other forms of mobile practices, the ethnography carried out in some sense becomes "amputated". I didn't follow "the ant" non-stop through his or her practice of weaving the urban together. This aspect, on the other hand, is captured through our GPS maps. The ethnographic work assembled here is 'staged' and 'sampled,' but this doesn't necessarily detract from its relevance. Recalling the quote by Vannini in chapter 4, "non-representational ethnography, therefore, shows how the actions of actors are consequential not in light of what they stand for, but in light of what they achieve, how they work, what they afford, whom they serve, and how so." Therefore, the walk-along interview is not about 'interpreting' the relationship between actions and hidden meanings; it becomes a co-creative encounter of the everyday practices of the participant and how they are enacted and experienced, always bearing in mind the performative nature of our methods.

These were some of the more pragmatic reasons for choosing walk-along interviews as a way of engaging with the participants' routes.

As mentioned above, walking is a mobile practice which is important to teenagers as an embedded way of enacting social relations and appropriating urban spaces. It therefore seems a relevant aspect to include when exploring the everyday practices and mobilities of teens. By delving into the practice of walking, embodied and mobile aspects of how the urban is practiced unfold. A number of ethnographies have been carried out on walking. Please see the anthology "Ways of Walking. Ethnography and practice on Foot", edited by Tim Ingold and Jo Lee Vergunst' (2008) for a rich collection on different ethnographies on foot) and Polack's explorations of a cattle herder's daily mobility is an example of how life is played out on foot but at the same time tied in with other forms of mobility.

Framing the walk-along interview

Recalling Augoyard's work on the housing estate L´Arlequin, the walk-along interview will help us to grasp the ambulatory practices of the participants. It ties in well with Augoyard's ambition to let the narrative and affective perspectives of everyday life surface, because it allows. Investigating everyday life as practice also prompts a methodological and empirical commitment to come as close as possible to the movements and materialities of everyday life, and as far away as possible from everyday life as an abstraction. Therefore, the role of the interviewer is not to presume and investigate predefined categories, but instead to facilitate, record, and simply track the interviewee:

"It seems that the categories of "directedness" and "nondirectedness" [of the interview] are not relevant in this case (...) because they promote a "content" that is already formatted by hidden inclusion of categories within the questions" (2007:21)

So what does walking afford the interview situation? Walk-along interviews bring the interview situation into a mobile context, and thus link what is said to where it is said (Jones et al, 2008). It is therefore a useful method when trying to activate understandings and perceptions of the urban environment. The walk-along interview draws on a phenomenological tradition, emphasizing the importance of the (moving) body as a constitutive aspect of place. In this context, I will argue for a post-phenomenological approach as the walk-along interviews are also mediated by GPS technologies. It is, however, important to stress that the strength of the walk-along interview is to bring forward an embodied perspective on how the urban environment is perceived.

Kusenbach (2003:463) describes the go-along interview as a hybrid between participant observation and interviewing. The go-along can comprise all sorts of thinkable modes of movement: biking, bus-riding, horse-riding, hill walking. In this instance I refer to the go-along as a walk-along, as explained in the previous section. The walk-along interview addresses a number of shortcomings of participant observation and interviewing when they stand alone as research methods. Firstly, participant observations are observations. By resorting to only observing peoples' routines and behaviors, the researcher is cut off from a rich source of knowledge. One easily assumes the role of Uncle Travelling Matt, the adventurous Fraggle who always found himself perplexed during his solitary explorations of the strange world inhabited by humans. The idea that the unobserved observer generates the "purest" data hardly makes sense within the epistemological framework, and it restricts access to diverse forms of knowledge. And bearing in mind Uncle Travelling Matt, the "unobserved" observer is rarely a neutral member of the community he studies. Instead, he often creates equal perplexity amongst the people he is observing. As Lee and Ingold put it (2006:67):

"We cannot simply expect to walk into other people's worlds and participate with them. To

participate is not to walk into but to walk with – where 'with' implies not a face-to-face confrontation, but heading the same way, sharing the same vistas, and perhaps retreating from the same threats behind"

As for interviews, they have an obvious disadvantage, relating to the context of the interview-situation. When researching the urban environment, interviewing in situ opens up for a more immediate access to contextualized knowledge as opposed to a sit-down and decontextualized interview. It is simply easier to relate the content of an interview about the urban environment when it is carried out in that particular setting. The pace of walking furthermore allows for engaging with more tactile aspects of the urban environment; you can stop along your route and smell, touch, and listen (Lee, Ingold 2006:68). Secondly, the walk-along interview overcomes some levels of awkwardness between the interviewer and the interviewee. Merging participant observation and interviewing in the walk-along method brings a greater phenomenological sensibility into the research process:

"***They make visible and intelligible how everyday experience transcends the here and now, as people weave previous knowledge and biography into immediate situated action. Because they can help blur the seemingly static boundaries between individuals and environments, and between subjects and objects of perception (Merleau-Ponty, 1968), go-alongs ultimately point to the fundamental reflexivity of human engagement with the world.*" *(Ibid, 2006)***

Kusenbach (2003) identifies a number of thematic potentials for the walk-along which are relevant to the research project. When return¬ing to the analysis of the interviews the three categories listed below will be revisited.

1) Perceptions of the environment (built, social, psychological, etc.).
The walk-along provides the researcher with an insight into how people "filter" their perceptions of the environment. The affordances embedded in the urban environment are often perceived through these perceptual filters such as our gender, our age, our hobbies, our profession, etc.

2) Spatial practices.
The walk-along interview allows the researcher to learn more about to what degree people engage with the urban environment. Different types of spatial practices call for different degrees and types of engagement. Our engagement can also have different textures of meaning; a seemingly mundane bus journey to work may be transformed into a meditative space.

3) Social architecture.
Walk-along interviews help map out the social architecture of places. By literally walking the borders of a place, one becomes aware of the invisible demarcations of the social geographies of that place. A walk-along interview thus provides access to not just with whom social relations are formed, but also where and how these relations are formed.

How were the interviews carried out?
In this section we look at the more hands-on aspects of the interviews. How were the interviews carried out in practice and what where the considerations taken into account when engaging with the everyday stories of the participants? Interviewguide, transcriptions and video footage is found in appendix 8.

How where the participants recruited?
Amongst the 20 young people who participated in the GPS survey, 7 volunteered to participate in a walk-along interview. In order to recruit participants for the interviews, we contacted the 20 GPS participants via text messages. The initial aim was to conduct 10-12

interviews, split half and half between boys and girls. This, however, turned out difficult for a number of reasons. The GPS survey was carried out in early June 2011, and due to the summer break, the interviews were not carried out until September 2011. This left a relatively large gap between the actual survey and the interviews. In practice, this meant that the project had probably disappeared off a lot of the participants' radars, and some had simply moved away from Aalborg. Others responded positively, but continuously cancelled appointments. In total, a group of 4 girls and 3 boys agreed to participate in a walk-along interview. In chapter 9 they are introduced.

What was the practical set up?
After a positive confirmation from the participant, we agreed on a time and place for meeting up. This was all organized via text messages. Beforehand, the participants were briefed about the set-up of the interview: We would meet and start out by chatting about their GPS tracks (see fig. 21). Then they would give me a guided tour of "their" places and routes, using the GPS tracks as a starting point, and I would interview them as we walked. The interviews were video recorded for my own reference, and the interviewee had the opportunity to opt out of this part of the interview. None, however, objected to the interviews being video recorded. Deciding on a meeting point for the interview provided an interesting challenge for the validity and the ethics of the research project. Initially, Trekanten, a community centre in Aalborg Øst, was used as the starting point for the interview. This location was chosen because it is centrally located in Aalborg Øst and it conveniently has a café with free wi-fi, which allowed us to look at the GPS tracks before venturing out. As the interviews progressed, the location turned out to be somewhat ambivalent. Even if the intention of the GPS survey and the interview was to follow the participant and not restrict them by the mental and geographical category called 'Aalborg Øst', the interview setting served the very opposite purpose. Because the interview was set in Aalborg Øst, the interview inevitably became focused on Aalborg Øst. The participants were acutely aware of the neighbourhood's poor public reputation and the interviewees were very keen to speak in it is favour, a theme I will return to in chapter 9. Of greater concern was whether the interviews served to further stigmatize Aalborg Øst when indirectly insisting on speaking about it as a place and a geography. Recalling Uncle Matt, I sometimes felt like the interviews made a big deal out of mundane and trivial things because they were carried out in that particular geography; issues one would hardly raise with people residing in other, more prosperous neighbourhoods. In other words, my concern was that the interviews ended up territorializing Aalborg Øst, when the intention was the opposite. Please see Jensen and Christensen (2012) on the notion of territorial stigmatization. In order to overcome this dilemma, I asked some of my participants to pick out a meeting place; it could be a place anywhere in the city that meant something to them. The idea was that this might open up different perspectives on how the participant uses and perceives the city. In practice, however, they all wanted to meet at Trekanten, because it was conveniently located near their homes. Without drawing too many conclusions from this dilemma, I want to bring my considerations forward, because it illustrates the implications a research design can have on a desired output. Had the GPS survey initially been framed as an investigation specifically of how this group of teenagers used the city centre, the output would most likely have been different. So, even if we methodologically and ontologically tried to write out Aalborg Øst as a geographical category, it still kept rearing its ambivalent head.

How did we decide on a route?
"Go-alongs intentionally aim at capturing the stream of perceptions, emotions and interpretations that informants usually keep to themselves. The presence and curiosity of someone

else undoubtedly intrudes and alters this delicate, private dimension of lived experience." (Kusenbach, 2003:464)

The above quote illustrates the point I also discussed in the previous section: the interview and the research design always insert another layer of reflection between interviewer and interviewee; the method is performative. The same applies for the routes that I walked with the participants. Because there is no such thing as a "natural" walk-along – it is not "a naturally occurring social situation"(Ibid, 2003:464) – the route became a sample of what the participant thought relevant to show.

In practical terms, we met up at the café at Trekanten and had a look at the participants' GPS tracks, day by day. The tracks were visualized in Google Maps as shown below:
Some participants had also used auto-photography (see appendix 5) to describe the daily routines as a supplement to their GPS tracks. Those photographs were also used during this initial chat. Based on the GPS tracks and the photos, the participants then put together a route around Aalborg Øst. All walks were, by choice of the interviewees, anchored around

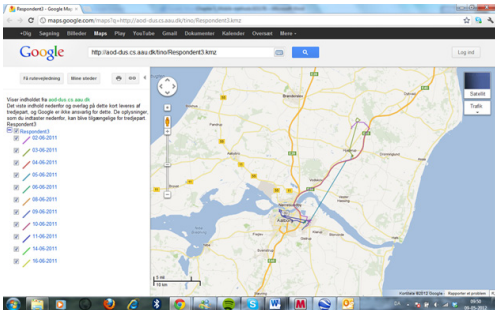


Fig. 21: Individual GPS tracks

Astrup-stien, a path that runs north-south through Aalborg Øst. In chapter nine we will take a closer look at the walk-along interviews and the routes we walked. The walk-alongs lasted roughly between 45 minutes to an hour.

How was the interview captured?
In order to capture the interaction between participants and the surroundings, I decided to record each interview on a digital video camera. As mentioned previously, all participants agreed to being recorded on video camera. The interviews were recorded by a research assistant, who walked along en-route. As a supplement to the sound recordings on the video, I used a digital Dictaphone. An external microphone was attached to the Dictaphone in order to capture the sound outdoors.

The presence of a research assistant with a camera and large microphone certainly added to performative nature of the research method. That aside, the participants didn't seem fazed by the presence of the interview equipment. We did, however, attract a fair deal of attention from passers-by, especially curious children who wanted to know what was going on.

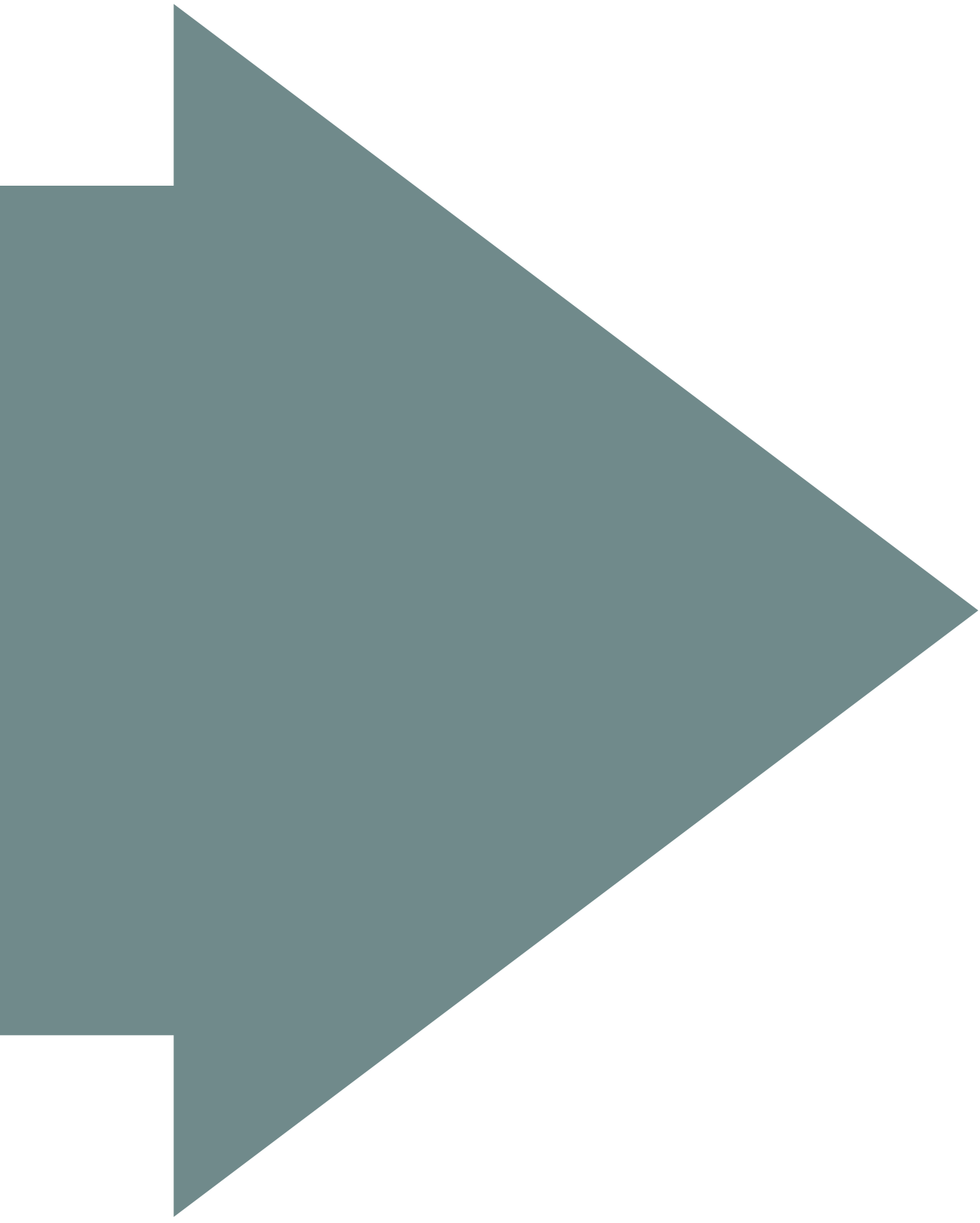
The research assistant then transcribed the recordings of the interviews. Pauses, accents, and fillers were omitted from the transcripts, as they were deemed irrelevant for the later analysis. In a few instances the transcripts are unclear because of poor sound quality. This is clearly something which affects the reliability of the data, because the transcription process already at that stage implies some level of interpretation.

Fig. 22: Trekanten culture house in Aalborg Øst

Summary

Choosing appropriate methods is always closely related to what we set out to investigate and while I have sought to choose methods that capture the mobile, embodied and transient, the list is never exhaustive. In this chapter we looked at how GPS tracking works as an applied research method. We have visited the boiler room, so to speak, to get in insight into what GPS tracking is in practical terms. When working with GPS tracking-which essentially is surveillance-it is important to consider the ethical implications involved when working with this method. Because one's location is becoming an important part of how we stage ourselves and narrate our identities, networked location data is inevitably public and this has negative as well as positive consequences. I discussed sousveillance as an emancipatory take on surveillance, an aspect which will be explored further in chapter 10. In order to bring more texture to the GPS tracks walk-along interviews were applied. Walk-along interviews were chosen because they give primacy to the more embodied, affective and sensory aspects of how we engage with the urban environment. Furthermore, the walk-along interview brings the interview situation into a mobile context, which supports the overall framework of the research project.

The methods presented in this chapter have been introduced as sequences, as tools in a tool box. In practice they overlap and work as an ensemble. In chapter 8 and 9 the methods are put to work and the empirical aspects of the research project are unpacked.



TEENAGERS IN PLANNING

06

Teenagers in planning

Introduction

In this chapter we take a look at how teenagers are dealt with in the planning literature. But first of all: why did I decide to engage this age group in the research project? In principle, any age group could have been included, or even a more or less random cross-section of the population. The aim of the research is not to draw generalizations on how a specific age group uses the urban environment, per se. Instead, the aim was to demonstrate how we could employ GPS tracking as a tool to inform the way we understand and engage with the urban environment, and thus to shed light on what kind of knowledge this method enabled us to assemble from both a theoretical and practical perspective.

In order to make the output more relevant and manageable to external stakeholders and to give the analysis more focus, it was therefore decided to delimitate the scope of the research to teenagers. Without providing an all-encompassing guide to how teenagers use the urban environment, the research provides an insight into the everyday practices of the urban, seen from a group of teenagers' perspective. These insights might not provide all the answers as to how we should plan for and with teenagers, but they should hopefully prove useful in raising qualified and relevant questions as to how we can include this age group and their preferences in the planning of our cities.

As we will see in the following, there are good reasons for engaging teenagers in the research project. In a similar study on the housing estate Vollsmose in Odense, Denmark, a prominent theme was participation and inclusion of this age group in an on-going master-planning process (Knudsen, Anne-Marie Sanvig & Harder, Henrik 2011b, Knudsen, Anne-Marie Sanvig & Harder, Henrik 2011a). 10.000 people reside in Vollsmose and half of this population is under the age of 25. Ethnically, 30 per cent have a Danish background and 70 per cent have an ethnic background other than Danish. When looking at how the residents are represented in the local democratic structures – housing boards – none of the representatives were under the age of 24, 70 per cent had a Danish ethnic background and only 30 per cent had an ethnic background other than Danish. These statistics speak volumes for the underrepresentation of, in this instance, young people with an ethnic background other than Danish, and they represent a more general challenge of how to involve young people in urban planning.

When browsing the literature on planning and teenagers there is a general consensus that teenagers are often forgotten or left out in planning processes. On the other hand, when looking at who actually uses the urban environment and public spaces, teenagers are evident users. Travlou (2003) identifies two major gaps in the research on teenagers and their use of urban public spaces. Firstly, research on "older" teenagers (teens between the ages of 15 and 18) tend to focus on teenage delinquency rather than their everyday experiences and practices of the urban environment, thus generating an image of teenagers being troublemakers rather than fellow citizens going about their everyday business, or as a resource to the planning process. Schytte and Børresen's (2008) research on young people's use of outdoor public spaces in Danish housing estates equally confirm this tendency. They note that the media often focuses on criminal and violent behaviour, and thus draws a picture of housing estates as problematic, when in practice these issues are not a main concern in teenagers' everyday lives. Secondly, Travlou identifies a need to create more in-depth research on teenagers' everyday-life experiences in order to inform public policies that address and include the needs of young people. Schytte and Børresen (2008) also note that it is worthwhile to invest in meaningful open public spaces for young people. However, their needs need to be identi-

fied and addressed in policymaking and in the design process. So, what does the literature tell us on how teens use the city and how they are included in the planning of our cities?

How do teenagers use urban space?

Research on children and young people's uses of urban spaces owe a lot to Kevin Lynch, who undertook some of the first extensive studies on this topic. With the research project "Growing up in Cities" (Lynch, Banerjee 1977), Lynch looked at how children and teens from around the world use and value the urban environment. As it turned out, maybe not so surprisingly, children and teens do have different expectations and uses of cities in comparison to other age groups. One of the key points drawn from Lynch's study is that younger people typically activate the immediate surroundings near their homes for play and social interaction, due to their restricted independent mobility. Thereby, they often become local 'experts' on their local environments. Similarly, they 'drift' a lot more than more than grown-ups, because their activities often aren't 'programmed' according to how the urban environment is planned and laid out. Lynch thus advocates a much stronger emphasis on participation and inclusion of children and teens' knowledge about the urban environment in planning processes. Lynch describes a series of methods, including mental mapping of places, image of locality, child-led walk-along tours, interviews, and ethnographic observations. In 2002, "Growing up in Cities" was followed up by the report "Growing up in an urbanising world" (Chawla 2002), which still, in an increasingly urbanising world, advocates inclusion of children and young people in planning issues. 'Growing up in cities' furthermore emphasises the importance of the institutionalization and streamlining of such participatory processes in policy and planning.

Despite the pioneering work done by Lynch, young people still remain a somewhat overlooked user group in planning processes (Travlou et al. 2008:309; Laughlin, Johnson 2011:439). Recent research does, however, show that this trend is changing. Journals like Children's geographies, Childhood, Journal of Youth Studies, and Children and Society often publish articles related to young people and the urban environment. One theme that emerges when looking at the international literature is that teenagers' uses of the urban environment go beyond a mere functional 'A to B' rationale. To a large extent, teens appropriate and 'manipulate' public spaces in ways which may go against the original programme of such spaces. This appropriation is closely tied in with the need for unsupervised spaces in which a conjoint identity formation can take place:

"The choices people make about where to meet turn out often to be related to the construction of identities and, both for themselves (us) and for other (them) (...) Young people in particular express their identity through processes of inclusion and exclusion, stereotyping and stigmatization. These processes occur almost everywhere but mainly in public spaces: For there to be a sense of 'us', a confrontation with them is necessary and the street is where people meet." (van Lieshout, Aarts 2008:501-502)

Along those lines, Børresen and Schytte (2008) have done research on young people's uses of outdoor public spaces on Danish housing estates. The results from this research to a large extent echo Lynch's finding from the 1970s: teens are major consumers of outdoor public spaces, but they express a need for designated 'teen' spaces. Instead, they end up appropriating un-programmed spaces or they challenge programmed spaces by employing them for alternative uses. This, in turn, tends to cause friction with other user groups. Secondly, both boys and girls look for spaces that allow for extroverted as well as more introverted activities. Børresen and Schytte emphasize the need to acknowledge the outdoor public spaces as an important 'stage' where teenagers can play out

these essential, performative aspects of their social interaction.

Even though it was conducted in the mid-nineties, Lieberg's (1995) study on teenagers' uses of public spaces is still useful when generating a framework for understanding the social interaction that takes place. During a three-year field study, Lieberg identified two major forms of uses of public spaces by teens: places for interaction (on-stage) and places for retreat (off-stage). Places for interaction are spaces free of adult supervision where peer-to-peer interaction takes place. Places of retreat are used for withdrawal, both from peers as well as adults (Clark, Uzzell 2002:98). As an extension of Lieberg's framework, a contemporary study on teenagers' performative uses of public spaces ought to include the dispersion of social media and how virtual public spaces such as Facebook spill into physical public spaces and vice versa. The performative Goffmanian perspective on this fusion seems particularly fruitful and is only sporadically investigated in recent literature. We will briefly touch upon this perspective in chapter 9 'On talk' when looking at how so¬cial media affected the way survey participants perceived and used the urban environment in Aalborg.

Cahill (2000) equally develops a theoretical framework for understanding the knowledge production and identity formation which takes place when teenagers assert themselves and start appropriating public spaces independent of adult supervision. With the term 'street literacy,' Cahill emphasizes the importance of the street as an important stage for mutual learning and self-assertion amongst teens. Drawing on environmental psychology, Cahill developed her concept of street literacy based on her experiences of working with inner-city teens in New York. She was intrigued by their ability to navigate and interpret complex layers of social geographies and power relations embedded in their neighbourhood and how these layers were intricately bound up with the layout of the urban environment. An important aspect of Cahill's concept of street literacy is that she sees the knowledge production that takes place as partial and situated in a material as well as a social context. In our walk-along interviews, this approach to knowledge is adopted as a way of capturing the participants' everyday experiences and how they make sense of those experiences:

"In order to make sense of our surroundings, we collage borrowed meanings together and then continually challenge this interpretation in experience, juxtaposing social and personal ways of understanding the environment." (2000:255)

Woolley's (2001) research on teenagers' uses of Central Business Districts is equally illustrative when looking at how teens often transgress the formal program embedded in the urban environment. Her study shows how teens' use of city centres often goes beyond mere commercial consumption and how alternative uses touch upon a more overall agenda of ordering and policing public space (Ibid, 2001:213). Woolley investigates skateboarders and what it is exactly that the urban environment and, more specifically a number of British city centers, afford these activities. Apart from physical and structural features, affording exciting and challenging rides, the sociability which the skating 'hot-spots' afford is of equal importance. As is often the case when teens 'hang-out' in commercial centers without behaving like regular consumers, their social interaction is conceived as undesirable loitering; Matthews et al deal with this issue in the context of the shopping mall (Matthews et al. 2000). The strategy becomes to move the undesirables along by employing legal barriers, security guards, surveillance cameras, and the like. In the case of the skate boarders, the street furniture might even be altered in order to distort the elements which afford the skateboarding activities. As Freeman and Riordan (2002) show that while

collaborations between planners and skaters most often addresses the layout and allocation of designated skate parks, a negative discourse at the same time is in operation, excluding skaters from regular mixed-use public spaces. When reviewing the literature on teenagers' uses of public spaces, it seems that on one hand public space is an important element in asserting identities and conducting social activities. On the other hand, it would appear that teenagers are often perceived negatively when they emerge in public, and their activities or even sheer presence can be seen as conflicted and discrepant (Laughlin, Johnson 2011:440). As Cahill points to with her concept of street literacy, teens may possess a different and more experimental type of knowledge about the urban environment which is misinterpreted or even overlooked. This is equally supported by Elsley (2004:156):

"***There is therefore a potential mismatch between parental and societal views about children's relationship to public space and the experience of children themselves.***"

Returning to Lynch's starting point, this knowledge remains important to include when planning our cities. In the next section we therefore look at how teens are represented and included in urban planning processes

How are teenagers included in urban planning processes?

When looking at how teens are represented and included in urban planning, they often fall between two groups: they are too young to be considered adults and too old to be considered children. This was a theme which emerged again and again during interviews with teenagers in both Vollsmose and Aalborg Øst. In particular, the teens over eighteen years old often find that they are forgotten in planning processes and outputs. This observation is supported in the literature on young people and planning. As Laughlin and Johnson point out, teens are either not recognized as a user group with specific uses and expectations, or they are considered part of a family unit rather than as independent users (Laughlin, Johnson 2011:439). As controversies often arise between teens and adults over how given spaces should be appropriately used, as seen in the previous section, it would seem obvious to include younger people's perspectives in the design and planning process (Elsley 2004:1, Travlou 2004:156). Furthermore, new ways of seeing might also open up new ways of doing, and thus hopefully create better solutions for all (Freeman, Riordan 2002:303). Finally, inclusion in planning also serves to educate younger people as active and engaged citizens (Knowles-Yánez 2005:3)

So while there is an increasing recognition that teens need to be included in the planning process because they have different perspectives on the urban environment, the methods with which to do so often remain underdeveloped (Travlou et al. 2008:309). When browsing the literature on young people, participation and planning a number of research projects emerge which specifically deal with methodological aspects of how to represent teenagers' perspectives on their cities. Thus, the focus in this section is to shed light on young people's perspectives on the urban environment might be assembled, not on how to – on an institutional level – undertake actual participatory planning processes in relation to concrete projects. For an extensive review of more practice and rights-based policy approaches, see Knowles-Yánez (2005), and for a more general overview on current research on young people and participation, see Children's Geographies Vol. 2, Issue 10 on a special issue on this topic (Porter, Townsend & Hampshire 2012).

Travlou et al. (2008)report on a research project on place mapping, drawing on Matthews et al.

and their notion of 'microgeographies' (Matthews, Limb & Percy-Smith 1998). The concept of the place mapping methods is to assemble the places teens come in contact with during their everyday lives and to use this mapping exercise as a way of engaging the participants in a wider discussion on how they use these places and how they value them. Again, the aim is to unveil teenagers' perspectives and place-specific knowledge about the urban environment by pinpointing favourite and least favourite places on a map (Ibid, 2008:312). Through this collective mapping exercise, a joint discussion and reflection was generated amongst the participants; aspects which we will return to later in our analysis and discussion of the mapping methodology employed in our research project:

"Through mapping, the dynamic experience of people moving through landscape is captured in discussion. It is a medium through which to elicit a collective view on teenagers shared (and dynamic) experience of hanging out and about in the city, relating , comparing and contrasting such experiences not only with each other but also with the structure of the urban environment as a whole" (Travlou et al, 2008:320)

Laughlin and Johnson (2011) report back on a research project carried out in relation to a large-scale regeneration project on a housing estate in Toronto, Canada. The article assembles and compares young people's perspectives' on the neighbourhood with those presented in the regeneration plan. As is often the case with social housing estates, there tends to be a general survey- and project- fatigue amongst the residents, and many different languages are spoken (Ibid, 2011: 443), characteristics that bear much resemblance to the participatory process and deliberations carried out in the Vollsmose project. When engaging the young residents, the research team deliberately sought to avoid traditional survey methods involving a lot of writing and talking, and instead employed more informal and visually based methods such as photography and other visual arts. These were supplemented by participant-led tours of the neighbourhood. Similar to the place-mapping project, the photographs and artwork were used as tools to catalyse a discussion amongst the participants on their perceptions of their neighbourhood. As the findings reveal, the teens participating in the survey had intimate and detailed knowledge about their neighbourhood and their understanding of

Fig. 23: Beboerkaravanen mapping event, June 2011

public space was often based on a sense of belonging rather than ownership. This might also be due to the physical characteristics of many housing estates where vast green recreational areas and walkways often are found as an immediate extension of the home, and thus blur the border between public and private spaces (Laughlin, Johnson 2011:453).

Using Kevin Lynch 'The image of the City' (1960) as an analytic framework Halseth et al. explore how children's cognitive maps might serve as a tool to unravel new understandings of young people's perceptions of the urban environment, again in a Canadian context (Halseth, Doddridge 2000). Again, this method serves to raise qualified questions and issues relevant to the planning process. An illustrative example is that most of the children in one way or the other included automobility in their drawings. This points to an interesting challenge of how to introduce alternative modes of transportation "when the sense of an urban place developing in a child's mind is seen from an automobile." (Ibid, 2000:578)

When looking at a more overall level of how to engage young people in planning, Lieshout and Aarts (2008:507) point out a relevant challenge. During a series of interviews they investigated the uses and perceptions of public spaces amongst teenagers and immigrants in the Netherlands. When faced with the question of what the interviewee would like to see change in their neighbourhoods, the answer was often "Hmmm, I actually don't know" . This touches upon an embedded dilemma in participation and planning: where does participation begin and where does it end? Planning and designing urban spaces is a complex process and most often citizens don't have a very clear idea of how they would like a given place to change or look like in the future. Instead, one could argue that methods which help disclose different perceptions and perspectives on the urban environment might be able to qualify the work carried out by a planning professional. This is an issue we will discuss in a later chapter, based on the findings from the present research project.

Fig. 24: Vollsmose worskhop, May 2011

Summary

This chapter looked at how young people are dealt with in the planning literature and how they are involved in planning processes. When browsing then literature on planning and teenagers there is a general consensus that teenagers are often forgotten or left out in planning processes. When reviewing the literature on teenagers' uses of public spaces it seems that on one hand public space is an important element in asserting identities and conducting social activities. On the other hand it would appear that teenagers are often perceived negatively when they emerge in public and their activities or even sheer presence can be seen as conflictual and discrepant. When looking at how young people are involved in planning processes, the methodological toolbox equally appears to be underdeveloped. In chapter 8 and 9 we look at how GPS tracking might work as an addition to this toolbox.

FROM MAPS TO MAPPING

07

From maps to mapping

Introduction

"In that Empire, the art of Cartography attained such perfection that the map of a single Province occupied the entirety of a city, and the map of the Empire, the entietyof a Province… In tim, [the maps] no longer satisfied, and the cartographers Build struck a Mapof the Empire whose size was that of the Empire, and which coincided point for point with it. The foloowing Generations, who were not so fond of the Study of Cartography as their Forebears had been, saw that the vast Map was useless…" (Jorge Luis Borges: "On the Exactitude of Science")

The GPS map forms an essential part of this research project. It holds a status as both a research object as well as a research method and it is therefore crucial to establish an understanding of what maps are and do.
In our everyday lives we use maps to navigate, allocate and locate resources, plan and administer cities, borders and boundaries, to simply orientate ourselves in a complex world.

Paraphrasing Gunnar Olsson, understanding maps is about drawing and understanding lines (Pickles 2004:3); what do they delimit? With the popular dissemination of tools such as Google maps and Bing Maps and our own co-presence in these augmented realities, due to the locational-awareness embedded in our mobile communications devices, the nature of maps is changing. Maps have, in some respect, turned into Borges' map of the empire, and what does that mean for the way we understand and work with maps?

In order to align mapping as a method with the ontological framework this chapter looks at how maps and the practice of mapping – cartography – have been conceived ontologically and epistemologically. Within recent years, the ontology of maps has been debated extensively amongst cartographers and geographers and the answer is far from straightforward.
As Shuurman notes, "In geography, the most guarded territory is not the Earth but disciplinary methodologies and by implication,

Map as truth	*Map as social construction*	*Mappings-spatial practices that work in the world*
Representations (descriptive)	*Representation (descriptive)*	*Practices (relationally prescriptive)*
Essentialist	*Constructed*	*Emergent*
Map ontologically secure (fully formed/immutable)	*Map ontologically secure (fully formed/immutable)*	*Mapping ontologically insecure (emergent and mutable)*
Inherent truth, non-ideological	*Inherent truth, ideologically tied to subject matter, not to map*	*Ideology emergent, relational and emergent with context*

Fig. 25: The cartographic landscape

the lenses through which the Earth is viewed" (Schuurman 2000:570). In the following, the debates are outlined as listed in figure 25 after Kitchin (2008). I finish up by positioning my research within this cartographic "landscape" before looking at how I have worked with the map in this research project. In chapters 8 and 10 the GPS maps are unfolded more analytically.

The map as truth

We enter the "map as truth" debate in the early 1990s when a heated dispute about GIS (Geographic Information Systems) emerged within the geography communities. Pleas see Schuurman (2000) for an extensive account of this "science war". These debates were internal to the discipline while still running along broader debates in the social sciences, and they are interesting because they highlight some of the conflict points in how cartography might be understood as a scientific method.

Geography has traditionally has been an idiographic discipline, but in the 1950s a call for more quantifiable and positivistic methods arose. Rather than just describing regional characteristics, geography sought to insert itself in the logical positivist paradigm (Simonsen, Hansen 2004:55-58), also referred to as systematic geography. As Simonsen and Hansen note, systematic geography lent itself well to urban and regional planning and therefore became an important 'supporting act' in developing the Scandinavian welfare city in the 1960s (Ibid, 2004: 59). One of the methods advocated within this branch of geography was statistical modelling, and the map was an apparent medium for visualizing the spatial patterns and causalities uncovered (Pickles 2004:33). Christaller's central place theory is a classic example of systematic geography, deriving locational patterns of business activities from mathematical deduction.

Many critiques of the positivist paradigm emerged within geography in the 1970s and onwards, something we will look at in the next section. The development and popular dissemination of GIS (geographical information systems) in the 1990s did, however, breathe new life into the positivistic fields of geography. Some argued that the reactions of critical geographers to the quantitative revolution in the 60s had torn the scientific foundations of geography into pieces (Openshaw 1991). GIS allows for extensive quantitative spatial analysis of geo-data and was therefore seen as a godsend by some geographers, enabling them to properly inaugurate geography as a scientific discipline.

This brings us back to the starting point, because what does the positivistic tradition mean for how the map is understood? The disputes outlined by Schuurman (2000) are exactly a reaction to the "quantification" of geography from both supporters and critics of GIS. The development of GIS taps into more epistemological debates on what a map represents. Viewed from a positivistic perspective, the map is simply a neutral and a non-ideological transmitter of geographical information – it is an objective representation of reality. Therefore, cartography itself is more about skills; a skilled cartographer is required on one end and a skilled map-reader is required at the other end in order to transmit the real world onto a readable map. Cartography was about how to best depict the world through spatial data and, if crafted skilfully, it simply depicts reality. Cartographic research has, therefore, to a large extent been restricted to the study of correct and efficient design processes, devoid of their social contexts (Perkins 2009:1). But as Pickles points out, "this is a form of realism and representationalism that is anything but naïve" (2004:33). The map is always a result of a design process and seen from this perspective, the idea of the map as a neutral representation becomes problematic:

"Unlike the author of a written text, the cartographer cannot express the limits of technique in the map itself. The lack of cartographic "buts" and "ifs" gave the cartographer 'much less leeway' to remind the map-reader of the interpretive nature of the mapping process, and, as a result, the map-reader easily falls into the map as a precise portrayal of reality (Broek 1965:65 in Pickles, 2004:35)

A lot more is at stake than a "precise portrayal of reality" when we look at maps. The critiques, however, don't restrict themselves to just the design of maps. In the next sections we look at the post-modern critiques of the map and the epistemology implied in these conceptualisations.

The map as social construction

In alignment with the discussions in chapter 2 on the modernist master plan, a series of critical 'post' geographies developed from the 1970s and onwards, challenging the epistemology embedded in a positivistic approach to geography (and science in general). This has also had ramifications for how the map is conceptualised. Brian Harley's seminal text 'Deconstructing the map'(Harley 1989) puts the seemingly objective nature of maps through a critical investigation. Harley's project was to challenge the epistemology of the map as a neutral component of positivism:

"The objective is to suggest that an alternative epistemology, rooted in social theory rather than in scientific positivism, is more appropriate to the history of cartography."(1989:2)

Drawing on Foucault, Harley instead approaches the map as a social construct of power-knowledge, and this introduces a whole new conceptualisation of what a map is. Harley sought to contextualize the map and address it as a cultural text. Looking at the map from this perspective, it becomes a double-edged sword. On one hand, the map is an expression of a dominant knowledge regime, and at the same time, the map itself produces knowledge about the world: "Maps are products of power and they produce power" (Kitchin, Dodge 2007a:332). Thereby, maps become political and contested, and mapping is no longer a neutral, professional skill; it is associated with exercising power.

Along the lines of Harley's critique, the use of GIS raises some obvious epistemological questions: what does the information we feed into our GIS represent, and how do we represent this information? Within the GISccommunity the book "Ground Truth. The Social Implications of Geographic Information Systems" (1995), edited by John Pickles, was equally influential. Pickles proposes a new agenda which moves beyond rigid disciplinary binary positions, split between a techno-optimistic positivism and techno-pessimistic critical geography, and, instead, approaches GIS from a critical, yet more dynamic stance:

"The emergence of GIS as both a disciplinary practice and a socially embedded technology represents an important change in the way in which the geographical is being conceptualized, represented and materialized in the built environment (...) GIS requires a critical theory reflecting sustained interrogation of the ways in which the use of technology and its products re-configure broader patterns of cultural, economic, or political relations, and how, in so doing, they contribute to the emergence of new geographies" (1995:25)

Out of these epistemological and ethical issues sprung a critical GIS fraction, which on one hand scrutinized the adverse societal effects of the application of GIS such as lopsided power-relations and knowledge hegemonies. However, critical GIS also engages with the emancipatory potentials of GIS which is telling for how the map is perceived in a post-modern context.

If maps are political and agenda setting, then counter-mappings serve the same purpose. This take on critical GIS is tied in with Public Participation GIS (PPGIS) which addresses more empowering and activist aspects of GIS. The whole notion of PPGIS entails knowledge from "below" and inherently encompasses a challenge of dominant knowledge regimes and ways of "doing" science.

The map as practice

The postmodern conception of the map has since been challenged within the cartographic debates by looking at the map as a performative tool, tied in with a more pragmatic practice-oriented approach. We start out by looking at Pickles who in 2004 (Pickles 2004) proposed what he called a 'situational pragmatics of map uses'. Drawing on Denis Wood's essay 'The fine line between mapping and mapmaking' (1993), Pickles points out, following Wood, that the post-modern critique of the epistemology of the map missed a fundamental ontological question:

"Maps are made because of needs of particular social situations; they are made to fulfil a particular function. As a result, there cannot be a general theory of mapping and cartography, only a pragmatics of map-making and map-using(...)The situational pragmatics of mapping focuses on the maps discourse function, asking 'not what does the map show or how does it show something, but what does the map do? What does it accomplish?" (Pickles 2004: 66-67)

In other words, the postmodern critique never moved beyond looking at the map as a representation of the world. To Harley and others the question was whose reality does the map represent. To Pickles, on the other hand, the map 'is not a representation of the world, but an inscription that does (and sometimes does not do) work in the world' (Ibid, 2004: 67). So where the postmodern approach sought to deconstruct the epistemology of maps, this post-representational (Ibid, 2004: 68) approach is therefore also committed to challenging the ontology of maps. This focus challenges Harley's position, which implied that the power and ideology exercised by maps 'was bound to the subject of the map, not the map itself' (Kitchin 2008:211).

The same efforts are echoed in Kitchin and Dodge's work on mapping (Kitchin, Dodge 2007, Kitchin, Perkins & Dodge 2009). Their work, however, is even more radical in their challenge of the ontology of the map. In their article 'Rethinking maps' from 2007 (Kitchin, Dodge 2007) they make the claim that the map has no secure ontological status. Instead, they suggest shifting the focus from ontology (how things are) to ontogenesis (how things become) (Ibid, 2007: 335). What does that imply? Kitchin and Dodge take Pickles' conception of the map as 'inscriptions that do work in the world' a step further. They not only see maps as practices, they see them as socio-technical assemblages with clear reference to Latour:

"Maps have no ontological status; they are of-the-moment, transitory, fleeting, contingent, relational, and context-dependent. They are never fully formed and their work is never complete. Maps are profitably theorized, not as mirrors of nature (as objective and essential truths), or as socially constructed representations, but as emergent" (Kichin, Dodge 2007: 340, own italics)

In other words, Kitchin and Dodge urge us to look at how maps come about and what they do as contextual assemblages, and to not just look at maps as a detached and static end product. A map is, therefore, a series of technical, social, and ideological foldings that emerge through practice (Ibid, 2007:342). In order to operationalize this standpoint, Kitchin and Dodge briefly touch upon Latour's concept of the immutable mobile. By reversing the

Fig. 26: Beboerkaravanen mapping event, June 2011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map from an immutable mobile to a mutable mobile, we find a very useful way of looking at the emergency of the map:

"Although it [the map] has the appearance of an immutable mobile – its knowledge and message fixed and portable because it can be read by anyone understanding how maps work – it remains mutable, remade every time it is employed. Like a street geometrically defined by urban planning, and created by urban planners, is transformed into place by walkers (de Certeau, 1984), a spatial representation created by cartographers (the coloured ink on the paper) is transformed into a map by individuals. As each walker experiences the street differently, each person engaging with a spatial representation beckons a different map into being". (Kitchin, Dodge 2007:338-339)

The immutable mobile is drawn from an analogy about La Pérouse and how he returned from his travels to China with map of the island Sakhalin; an analogy Latour uses in his article 'Visualisation and Cognition: Drawing things together' (Latour 1990). Please see the textbox below for a more detailed account of La Pérouse and the map of Sakhalin. In this article, Latour uncovers how things and relations are folded together in seemingly stable entities in the form of maps and other types of representations, allowing them to travel, in both epistemological and ontological terms, and still remain legible. The point is that when looking at the map from an ANT and assemblage-inspired vantage point, its stability is challenged; it becomes a mutable mobile. It is never stable, but takes shape according to the practices, social as well as technological, in which it is embedded. A map is only a map in its becoming; when it is performed, translated, read, communicated, etc. Importantly, this shift "provides a way to think critically about the practices of cartography and not simply the end product" (Kitchin, Dodge, 2007:337). If we accept maps as emergent we open up a performative and reflexive aspect which can be employed in a participatory fashion as we shall see later.

La Pérouse and the map of Sakhalin

In the article "Visualisation and Cognition: Drawing things together" (Latour 1990), Latour investigates how things and relations and knowledge about things and relations, are transformed into written accounts and representations. What Latour noticed in his visits to the scientists' laboratories was that the inscription was the act and format which seemed to secure the knowledge produced in the laboratory in a readable and mobile format. In that way, graphs, tables, and words became the common currency for transmitting scientific knowledge from one arena to another.

How much weight should we allocate these inscriptions, images, and representations? Latour urges us to keep a bifoci: one eye on the inscription, or visualization, as an immutable mobile - how is it assembled, which network space is it participating in? The other eye we keep on the persuasive

qualities of this inscription; how does it help promote one truth over another? Or rather, how does it enable the idea that knowledge and science is agonistic; a battle over uncovering the right truth.
Latour uses the following analogy to illustrate his point:

"La Pérouse travels through the Pacific for Louis XVI with the explicit mission of bringing back a better map. One day, landing on what he calls Sakhalin he meets with Chinese and tries to learn from them whether Sakhalin is an island or a peninsula. To his great surprise the Chinese understand geography quite well. An older man stands up and draws a map of his island on the sand with the scale and the detail needed by La Pérouse. Another, who is younger, sees that the rising tide will soon erase the map and picks up one of La Pérouse's notebooks to draw the map again with a pencil..." (Latour 1990:4)

What is interesting in this analogy is the way in which the local's knowledge about the geography of Sakhalin is turned into a map, an immutable mobile. By transferring the fragile representation, drawn in the sand, to a notebook, the map is suddenly executed by a network space. Once La Pérouse's vessel takes him back to France, the map will again be handed over to a cartographer; it will be processed with Mercator's projection; it will be printed and reproduced and thus perform in a new network space. And it might even return with another vessel to the old Chinese man in Sakhalin, informing him that this land indeed is not an island.

The point, and the power, of La Pérouse's map is, of course, that it inscribes territories and exploits, which in turn assist and materialize the same discourses (and actions) of in this instance imperialism and capitalism. In short, the map in the sand tells a story, and once this story is transferred to paper, with tools and projections, it becomes a convincing and persuasive argument when trying to narrate a universal truth about Sakhalin. The map becomes an immutable mobile:

"If you wish to go out of your way and come back heavily equipped so as to force others to go out of their ways, the main problem to solve is that of mobilization. You have to go and to come back with the "things" if your moves are not to be wasted. But the "things" have to be able to withstand the return trip without withering away. Further requirements: the "things" you gathered and displaced have to be presentable all at once to those you want to convince and who did not go there. In sum, you have to invent objects which have the properties of being mobile but also immutable, presentable, readable and combinable with one another." (Latour 1990:6)

Summary

Not surprisingly, I am primarily drawing on the 'post-representational' understanding of the map, as it is in direct alignment with the epistemological and ontological framework outlined for this research project. It is a particularly suitable conceptualization, taking into account the dynamic nature of the maps we are working with. With the technologies we have at hand, we can potentially draw up the empire, but in order for it not to become useless we have to keep in mind the lessons learned from Kitchin and Dodge: maps emerge through practices, they are not static by-products. By allowing them to be mutable mobiles, we have a fruitful framework for understanding what happens in that intricate entanglement amongst GPS technologies, people, and places: what does the map accomplish? This is the answer I seek to answer in the following three chapters which unfold the empirical findings of the research project.

ON TRACK.
DRAWING AALBORG ØST TOGETHER

08

On track. Drawing Aalborg Øst together

Introduction

In this and the following chapter I want to bring the empirical work to play and show what Aalborg Øst looks like from the perspective of a group of teenagers. This story would have been different had I encountered a different group of people; their stories would have been different had they been narrated by somebody else. This is exactly why our methods are performative and the reality I enact in this chapter is very much a joint effort made up of people, dreams, disappointments, social circumstances, GPS devices, planning discourses, pets, and scooters. Just to name a few.

Drawing on GPS mappings and interviews, I assemble a series of perspectives on Aalborg Øst with a focus on how the (sub)urban is practiced and enacted by this group of people through their everyday practices and mobilities. Thus, on an empirical level we look into the question "what kind of knowledge can we generate with the entanglement amongst user, place, and GPS technology?"

In this chapter I focus on unfolding the mapping methods and presenting the empirical findings I quite literally tracked down during the research. What do they tell us about Aalborg Øst? I start out by looking at the initial mappings that drew up the place which framed the empirical context of the research project. We then take a look at the different types of mappings carried out in conjunction with de Waal's three techno-urban imaginaries which were introduced in chapter 4. The chapter works on two levels; it demonstrates how one can methodologically investigate the urban from a mobile and practice-oriented perspective. But it also looks at what these methodologies, and empirical outputs, tell us about a place. This empirical hodgepodge may appear messy, but recalling Haque, the point is not to draw a picture-perfect reduction of reality:

"Data are not tools for simplifying. Our role as designers is to demonstrate complexity and develop tools to manage complexity". (Usman Haque, stated in presentation at Social Cities of Tomorrow conference, Feb. 17 2012)

On track

Opening the field- the felt map

Monday June 4, 2011. Along with colleague Ditte Bendix Lanng and a large aerial photo of Aalborg Øst I drove to the Community Centre at Blåkildevej in Aalborg Øst. The map was assembled on a table in the middle of the main conference room. During a community festival at Blåkildevej this first week of June, a number of activities were located in and around the community centre and while locals drifted past we hoped to lure them in for a chat about their neighbourhood. Equipped with a jar filled to the brim with colourful felt balls, pins, small flags, and large bowl of sweets, we eagerly waited for local residents to swing by and share their views on their Aalborg Øst with us. We named the exercise 'Det bedste sted I Aalborg Øst'. The idea was to get as many people as possible to mark their favourite place in Aalborg Øst with a small felt ball, and thereby draw up a colourful map of their neighbourhood (see fig. 29). We deliberately gave the exercise a positive and maybe slightly naive emphasis in order to address the focus of the festival which was to highlight the potentials and strengths of Aalborg Øst. Secondly, and more importantly in relation to the research project, I wanted to form an initial place-composition of Aalborg Øst. Which places appear on the mental map? Which places stand out and why? This was not a scientifically rigorous exercise as such, but meeting and informally talking to people is an excellent preparation for 'entering the field', so to speak. Finally, the map provided an occasion for us to hand out the GPS devices while informally engaging the participants in the broader context of the research project.

So what emerged during the initial mapping exercise of the research project? Clusters and patterns of places formed, some of which we had heard of beforehand, such as Sommerfuglen, an unusual wooden structure built by Villy, a local dedicated to creating a space where the history of Aalborg Øst can be disseminated. Some places were new to us - such as the local "Hundeskov" - a park where you can walk your dog off the lead. And some places were simply very personal narratives not visible to the naked eye: one woman shared a special place with us where she went to seek peace and quiet. The edges of the map were often activated in order to indicate where other important places were located, such as "Hesteskoen," a beach close to Aalborg Øst or the library in the city center. Gradually, a new picture of Aalborg Øst emerged and as the week progressed; the felt balls, flags, and comments formed an organic and dynamic map of Aalborg Øst, which turned out to be a great conversation platform. When the local radio P4 turned up to interview the festival organisers about the festival, the map even became a backdrop of the interview. As such, it served as an eye-opener, not just for me but also for other people passing by the map. This was a highly analogous yet incremental and dynamic type of map, it was very much a hands-on example of maps as practices and was of-the-moment. This map did 'work in the world' as a spatial practice (Kitchin 2008, Kitchin, Dodge 2007a) and it became through a continuous dialogue between participants, researchers, pins, felt balls, a jar of sweets, and an aerial photo.

When the festival was over, the 9220-staff asked if they could keep the map because they had found it such a useful tool for engaging

Fig. 27:Beboerkaravanen mapping event, June 2011

people in conversation. When later visiting Projekt 9220, I found, to my disappointment, that the map had been dismantled. Gone were the colourful felt balls and the flags with statements. Only the aerial photo remained, perforated by the many pins. It turned out that the map had been used in a different context for a different workshop and they had therefore needed a blank surface to work from. If I had read Kitchin and Dodge's work on maps and mapping at that point, I probably wouldn't have been quite as sad, because the point is that maps serve purposes and they are not immutable mobiles like the map brought by back from Sahkalin by La Pérouse (Latour 1990):

"[Maps] emerge in context and through a mix of creative, reflexive, playful, affective and habitual practices, affected by the knowledge, experience and skill of the individual to perform mappings and apply them in the world. Thus the map does not represent the world or make the world; it is a co-constitutive production between inscription, individual and the world, a production that is always in motion, always seeking to appear ontologically secure. Conceiving of maps in this way reveals that they are never fully formed but emerge in process and a mutable (they are remade, as opposed to mismade, misused or misread). (Kitchin 2008: 214)

Maps, in other words, are not fixed representations, they are remade and they are relational and so was our felt map. Even if this map was highly analogous and tactile - and very far from a digital map - it served as a taster of what it is that maps do. Something we will return to throughout the analysis of the digital maps. From working from a very fixed geographical framework - the felt map was restricted by the static nature of the basemap - we then moved on to the next part of the research project which was to generate a digital and dynamic GPS map of Aalborg Øst. How the GPS mappings differ from the felt map as a performative tool is something we will look at in chapter nine. In order to unfold the research question "what kind of knowledge can we generate with the entanglement between user, place and GPS technology?", we will in the following look at what kind of knowledge the different types of maps afforded us structured around three themes adapted from de Waal's techno-urban imaginaries: aggregation, embodiment, and public sphere.

Weaving Aalborg Øst together - GPS tracking

The black box

The next stage of the mapping process was then to collect GPS data from the participants. The setup, as also explained in chapter 5, was on the surface relatively straightforward. A box of small black GPS devices - "Lommies" - and chargers where handed out to the participants. Along with the GPS device, the participants were given a practical, as well as written instructions (see appendix 3), on how to operate the device. I had a very general level of knowledge about what actually happens when GPS signals are processed and transformed into GPS tracks on a map. Even though GPS tracking is an everyday occurrence - we use it for running,

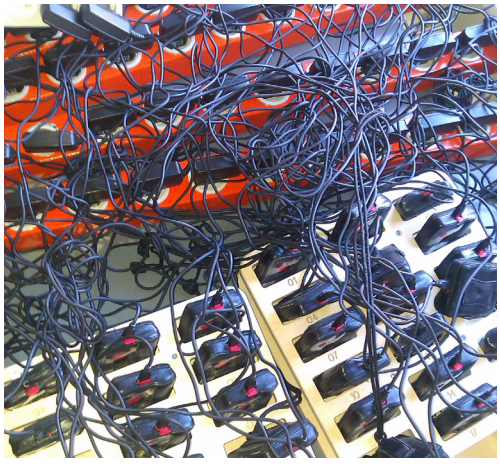


Fig. 27: Lommies charging

Fig. 28: Beboerkaravanen mapping event, June 2011

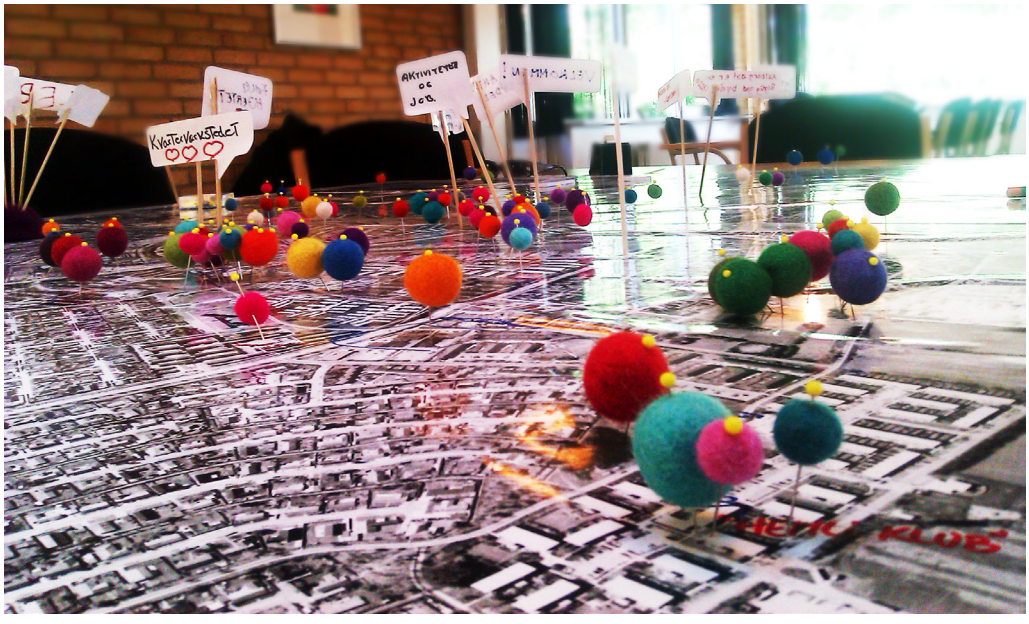


Fig. 29: Aalborg Øst' best places, particpatory map

for navigating, for presenting ourselves on social platforms - the technology itself is complex and it remains a black-box to most users.
The point here is not to undertake a meta-theoretical exploration of the black-boxing of GPS technologies. It is, however, important to keep in mind that this black-boxing does take place. GPS tracks don't just emerge out of nothing, but are assisted by the different devices and methods I employed, such as computers, databases, and GIS software, in order to translate and visualize the interaction amongst a moving body, a GPS device, and a satellite onto a map.

Interestingly, the empirical work was carried out as smart phones were becoming increasingly widespread as an everyday technology. Due to this development, the lommy quite literally became antiquated as I was handing them out to the participants. Consequently, the Aalborg Øst survey was one of the last surveys to use the lommy. The Vollsmose survey which is described in a later section served as an initial test of how smart phones work as a tracking device. The focus subsequently moved on to developing a tracking application for the Android platform which is a much more viable and practical solution (Weber, Stigsen 2012).

Fig. 30: Lommy Phoenix

In this context, the appearance and the functionality is equally relevant to look at when analysing the interaction between user and technology. The Lommy GPS device is designed to have an un-ambiguous and user-friendly appearance. It is roughly the same size as a pack of cigarettes and it bears a certain resemblance to the early Ericsson mobile phones. The GPS device only has one large red on/off button and three small diode lights, which, according to colour and intensity of the flash, will give you various information, such as whether it is logging data or not or how many satellites it is connected to. It furthermore has a little speaker which in a robot-like way will let you know when your device is low on battery or when it is charging.

Despite its simple design, the GPS device did have a somewhat alienating effect: the participants were very aware that they were carrying a piece of technology around. As one participant in a similar bicycle survey expressed it, when we asked him how he experienced the usability of the GPS device:

"It was ok. But it [the GPS device] looked uncool, out-dated, and old-school. I had pictured something with a display at least. The fact that it speaks at you is very 80s. Like that TV-show from the 80s with the guy and his talking car [Knight Rider]!"

The reference to Knight Rider - a TV show starring David Hasselhof fighting criminals along with his trusty, artificially intelligent car - is quite illustrative of the particularly "technological" appearance of the GPS device and serves as textbook example of an alterity relation:

"I was afraid of bringing it to my written exams, because I was worried it was going to starting beeping in the middle of my exam(...) One of my friends brought her GPS to the exam and I asked her "Didn't it go off? and she said "no not at all". So I decided to bring it along my other exams".

Conversely, a group of male participants were spotted attaching the GPS device to their belts and visibly displaying the GPS. To these participants, it appeared that the very "technological" look of the GPS was cool; that carrying the device somehow made them different to everybody else.

The fact that the GPS device to some extent was perceived as a foreign element in the participants' everyday lives has its strengths and weaknesses. In practical terms; when the GPS device is not an integrated part of the participant's life, it is easy to forget to bring it along, unlike a mobile phone. It also emphasizes the surveillance aspect of the technology, which in turn might make the participant more aware of carrying the device and potentially altering his or her daily routines. I would argue that this is not necessarily a problematic issue as such; it only emphasizes the performative nature of the methodology and might even spur an increased awareness and reflexivity about how the participants use the urban environment. This is an aspect I will discuss in conjunction with Don Idhe in chapter 10. What should be made clear in this section is the role of the technology in the research project. Not just as 'something' that produces GPS maps, but also a something with which the participants actively engage, and through this engagement and interaction shapes the picture they draw of their neighbourhood.

The map as aggregation

This particular affordance we will look at in this section draws on what de Waal terms the city as operating system (OS) (de Waal 2011:11-12):

"Agency [in the city as OS] is usually located at the level of the individual who is driven by his or her own goals and desires, yet at an aggregated level particular customs, legal code, or institutions emerge over time, thus hardening specific practices and power relations in stone, law, or today, software code (...) The 'urban OS' of our time is written in software code, can sense individual actions in real-time and can aggregate these into data that can be used to actuate all sorts of actions. "

It is the same approach we see Kitchin and Dodge apply in their analysis of the impact software has on everyday life (Kitchin, Dodge 2011, Kitchin 2011, Kitchin, Dodge 2005). Software code shapes our cities and thus our lives. Like any other infrastructure, it directs and orchestrates the flows of people and goods, but it does so in an ubiquitous and invisible fashion. Unlike the police officer who directs the traffic, the software code embedded in a traffic light is hidden and we only take note of it when it doesn't work:

"As a consequence, software often appears to be 'automagical' in nature, in that it works in ways that are not clear and visible, and it produces complex outcomes that are not easily accounted for by people's everyday experiences."(Kitchin 2011:945)

But, as Kitchin and Dodge emphasize, this process is circular, not linear. Software shapes cities, but in turn data about its citizens shapes code. Even if this research project does not investigate the relationship between software and city, our data gathering is still relevant for this enquiry in the sense that our GPS mappings feed into the process of generating data about how people use cities. This information may, in turn, be translated into code, which then reshapes our cities. This process is addressed more directly, and playfully, in Poulsen's project on interactive lightning at Gammel Torv in Aalborg, where users collectively decide on a

preferred type of illumination through interaction with street lights (Poulsen et al. 2013). MIT's Senseable City Lab equally works with this affordance when tracking movements of people and things in the city in order to create a 'sentient' intelligence in the city infrastructures which are real-time responsive (Outram, C. 2010; Calabrese, F. 2008; Francisca M. Rojas Clelia Celdesi Valeri Kristian Kloeckl Carlo Ratti 2008)

In this particular research project, location data, based on 20 participants' inputs, has been processed and analysed in order to uncover patterns on time consumption and movement patterns in the city(see fig. 32 plus appendix 6 for all maps) The population is too small to generate any statistically sound generalisations on how this particular age group engages with the city. What the data analysis does illustrate is how the aggregate level works when looking at the city as an operating system. As shown in the maps, particular movement patterns emerge when looking at the data 'from above', which in turn might help inform either software code or, in a more analogous manner, it might help inform decision-makers and planners about how their cities are used and thus qualify interventions. In the Aalborg Øst case we see how the connectivity with the rest of the city mostly consists of exchanges between Aalborg Øst and the city centre. These exchanges will be investigated more closely when engaging with the walk-along interviews. Apart from one participant who regularly crosses over to Nørresundby - the north side of the Limfjord - there is hardly any interaction between the north and the south side of Aalborg. When comparing this to a GPS survey undertaken in 2009 as a part of the Diverse Urban Spaces some interesting patterns emerge.

The teenagers who participated in the 2009 survey were for the most part living in Hasseris, another suburb of Aalborg. Again, this survey shows that on a city-scale the spatial exchanges are primarily amongst Hasseris, home, and the city centre. The rest of the city is sparsely engaged with, including Aalborg Øst. While these two surveys are not comparable statistically - one survey has 20 participants while the other has roughly 170 participants - it still poses some interesting questions regarding how citizens on a city-wide level engage in public spaces, and thus with each other. It is not the aim not to specifically investigate the uses and importance of public spaces on a normative and theoretical level, although it clearly ties in with such a discussion. We will, however, look at the uses of public spaces when analysing the interviews. Equally, for transport planners, these types of data give clear indications of how people use transport infrastructures (Snizek, Sick Nielsen & Skov-Petersen 2013, Reinau et al.2012)

While data at the aggregated level undoubtedly are useful for mapping and analysing general movement patterns, they can also be deceptive. As for the mappings we did in

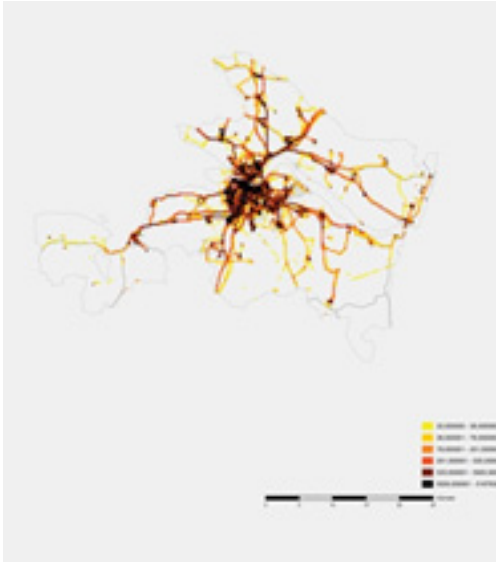


Fig. 31: Diverse urban spaces. Illustration: Henrik Harder

Aalborg Øst, they look persuasive, but in reality they are based on a small sample of the population. This should never form the basis for actual decision-making, as the maps are never all-encompassing; they draw a partial picture of what uses of Aalborg Øst might look like. This, however, doesn't disqualify using GPS data as a quantitative tool. But as Harder et al. (Harder, Bro & Knudsen 2010:15) point out, one just needs to keep an eye on what this type of data affords the investigation. The point here is therefore to look at what GPS tracking affords us when using it as a quantitative tool. This in some sense relates back to the above quote by Kitchin: Software - and data - may not appear accountable if they remain black-boxed (Demeyer 2012). On the other hand, if we open up the black box and make the data publically available and which we feed into the digital and analogous 'operating systems' of our cities, it would make data and data-outputs far more accountable. Several open data initiatives are being implemented throughout the world, and as a response, citizens start utilizing these data in citizen-generated apps as a form of sousveillance (Desouza, Bhagwatwar 2012). A current example of such initiatives is the Apps for Amsterdam competition, inviting citizens of Amsterdam to design apps on the basis of the open data made available by the city council (Demeyer, 2012). In this respect, the OS-approach, while drawing up large-scale aggregated spatial patterns, might also serve to create a collective awareness on how we use and engage with our cities because they merge the individual with the collective level. We see this in Usman Haque's Natural Fuse project, as described in chapter 5 (Haque 2011) and the Trash Track project at Senseable City Lab which exposed the (long distance) journeys of people's trash in the US (Offenhuber 2011). This again relates to the map as public sphere, which we take a look at in a later section.

The map as embodiment

Returning to the web-map, I now want to look

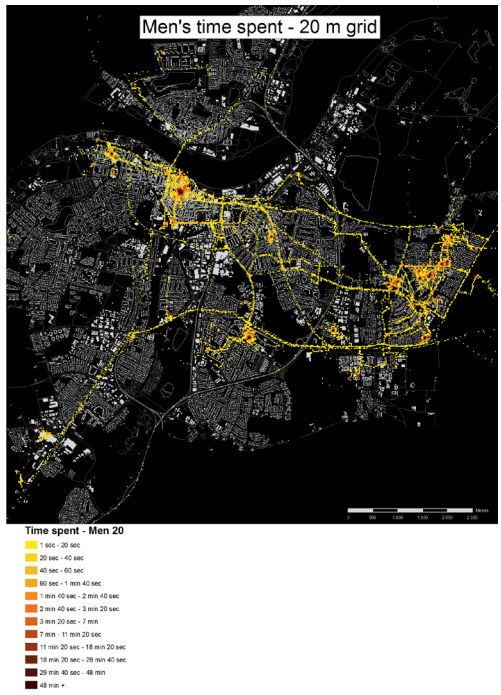


Fig. 32: Time spent, men Aalborg Øst

at how this map equally affords an embodied perspective on how the urban is practiced. As we saw in chapter 4, de Waal denotes this perspective 'the urban flaneur', drawing on a Situationist-inspired approach to how we might conceptualize the potentials of digital media technologies as a tool for narrating alternate perspectives on urban life.

The tracks which the participants left behind on the web-map are interesting because they represent a different type of dialogue which goes beyond verbal or written communication. Instead of articulating their practices in words, the participants used their feet - or scooters and bicycles - to mediate how they practice their city. With their feet they drew their own spatial narratives of Aalborg Øst. Their mov-

ing bodies, in other words, were crucial for the data collection. However, without the interplay amongst a moving body, the GPS device, and the urban environment, this narrative would have remained invisible. An important point is that their stories are based on their everyday lives, there's nothing unusual about them. The participants basically just carried on doing what they always do. They went to school, met up with friends, walked their dogs, and took the bus into the city centre and back again: mundane stuff, but interesting nonetheless, because the sums of these types of everyday mobilities are relevant components of the stuff that make up our cities. The tracking technologies allow us to capture the embodied everydayness of mobile practices, which most of the time go unnoticed. The moving ants that de Certeau observed from the skyscraper in New York form a pattern, as we saw in the previous section. But this pattern is made up of individual lines which represent lived lives and practices. Capturing everyday life is nothing unusual in itself; sociology, anthropology, human geography, and many other disciplines work with the everyday aspects of human life and interaction. But by employing GPS tracking, we - researchers as well as participants - get a peek into a spatial representation of these practices which differs from other methods, such as interviews and observations.

Recalling Augoyard's notion of ambulatory practices, we want to investigate how we might understand and employ these GPS tracks as transient and embodied narratives of place.

"The referent for one's walks is not the simultaneity of a planned spatial whole but, rather, at each moment of the stroll, the coexistence of the different instantiated principles involved in everyday life. The explication, the development in the movement of this coexistence, resembles a sort of creation, and through this creation the space into which one has gone takes on this or that quality, depending on the occasion, but no longer has any permanence of its own (except in representation and on maps)."(Augoyard 2007:17)

What do our GPS tracks afford the process of capturing the fleeting nature of these ambulatory practices that are in constant flux? As Augoyard points out, "the practice of inhabiting as it is lived always escapes". This emphasis on the importance of the non-quantifiable and complex 'ways of being' (Ibid, 2007:18) clearly stems from the critique of modernist planning principles we looked at in chapter 2 (Ibid, 2007:13-14). As a protest against the top-down, rational perspective embedded in modernist planning, Augoyard refuses to put life on an abstract formula. Instead, drawing on linguistics, he seeks to describe how people weave together their neighbourhood through spatio-temporal practices (Ibid, 2007:26). Augoyard's emphasis on the lived experiences of place echoes a phenomenological and non-representational approach to how we can understand and engage with places:

"Yet what is this "remainder", this surplus that cannot be retrieved by the machinery of production and that is outside the scientific categories currently in force? And how can it take on meaning, if not via an investigation that takes form outside the universe of totalizing representation, outside the sphere of necessary causes and "why" questions?" (2007:14)

With Augoyard's ethnography we are following the actors, albeit with a heavy emphasis on walked experiences, but we nevertheless see how they assemble their own rhetoric of walking in interaction with the built environment, people, and memories. Even if Augoyard's focus and perspective from where he investigates is on eye, or rather foot, level, we would argue that our GPS tracks manage to capture some of the complexity of lived practices as they take shape and morph. Especially when engaging with the people who actually drew the tracks

with their own bodies. The representations we create are, unlike a 'traditional' map, fleeting in their nature. This fleeting property is afforded by our tracking technologies, allowing the moving body to be the main author of the map. Secondly, the top-down properties of the map merge with a bodily narration, or inscription, of the urban environment. The lines on the map are literally drawn by the participants and their GPS devices and articulate an individual spatiotemporal narrative. These properties secure a dynamic permanence to all these transient everyday practices - the "remainder" which is not captured in statistics, sociological models, or discourse analysis.

The tracks do, however, remain abstractions to the spectator. But as we saw with Mr. Idiris in Esther Polak's project 'Nomadic Milk', something happens when these abstract patterns are appropriated by the person who actually drew the map. These abstract lines are read as personal narratives and they evoke memories and reflections. When engaging with the meeting between the personal narrative and the abstract spatial imprint the participant has left on the map, a door simply opens for a richer understanding of how he or she engages with the urban environment.

Unlike Polak, who incrementally 'talked' her participants through their tracks as they were drawn up by the robot, there was a substantial time lag of about 3-4 months between the tracking survey and the interviews. The maps were used as an initial conversation and a starting point for the walk-along interview, before venturing out in the footsteps of our participant. This time lag most likely washed away a lot of the details about what the participants were up to during the week when they carried the GPS device. On the other hand, the tracks did, to my and the participants' own surprise, help activate memories related to that particular week and surprisingly detailed stories about their activities emerged.

In an analogous fashion, Marling's 'Urban Songlines' (Marling 2003) works with a related theme of capturing how different lifestyles are enacted through spatial practices. In many ways, the baseline of this research project is inspired by Marling's notion of 'urban songlines', which she draws from an Australian aborigine terminology. Along with interviews and autophotography, Marling maps each participant's song line as it unfolds in the urban landscape:

"A song line is the line or path each one of us follow in our daily chores from one place to the other; (...) We attach our social life and our images of the urban-experiences and the city's architecture to these song lines. Song lines are physical trails as well as mental connections" (2003: 12, own translation)

In the above quote, Marling also touches upon the more affective aspects of everyday life; those aspects that are so difficult to capture and quantify but nevertheless always rumble somewhere in the background. Or as Thrift has (sarcastically) put it: "affect is a kind of frivolous or distracting background to the real work of deciding our way through the city." (Thrift 2007:57) In conjunction with the GPS tracks, the interviews will later investigate how these aspects of the urban environment are tied to

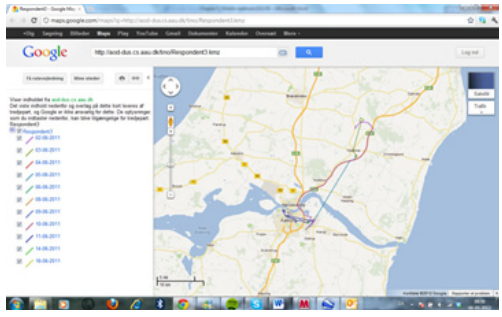


Fig. 33: Individual songlines

each participant's everyday trajectories. Inspired by Marling, who visualises the song lines as trajectories or spatial fingerprints, we have used the participants' individual tracks as a way of engaging the participant in conversation about how they use the city. Figure 33 shows an example of the 'song lines' we used for the interviews.

Where Marling's song lines are analogous, the song lines assembled throughout this research project are dynamic and they capture the city as it actually emerges through daily activities and practices. From the individual point of view, these embodied testimonies are unique while they still interact with the collective level and thus, potentially, create a different awareness of how the urban is co-produced. One participant from a survey in Vollsmose said "I'm surprised at how much I move about", and another participant said "This map draws a picture of where we live".

While the song lines don't reveal anything about how it actually feels to be en route, they do still represent one very important aspect of being en route: the moving body. The particular quality of the location data seen from this perspective is that it captures how we actually move and thus enact the urban. In conjunction with sensory technologies such as speedometers, heart rate monitors, and - as was the case with Nold's emotionmaps (Nold, Jensen & Harder 2008) - a galvanic skin response device, we can start mapping how the body actually responds to the urban environment and how these feedbacks are tied to both physical and mental attributes of places. Because this information is based on everyday practices - I didn't ask the participants to do anything other than to just stick to their daily routines - it also has a different type of resonance with the participants. While practice - just going about your everyday business - is an indirect way of involving people in a conversation about how they engage with the urban environment. At the same time, the output is easy to relate to, because the input is very direct: this is me, moving through the city! When later engaging with the interviews I do exactly this: engage the participant in a conversation about their daily routines; using their GPS tracks as platforms.

In order to revive the embodied, mobile, and dynamic aspects, an animation was put together which shows how our participants laced together their everyday lives through practiceand movement (see fig. 34 and appendix 7). Again, the animation enables us to grasp the importance of including the mobile body as a constituting factor in how places emerge. This is an affordance which, visually, is lost when running the data through the analytical black box. The animation of the GPS data is, however, deceptive, because it doesn't show how standstill is an equally important factor in how our everyday lives are performed. When Harder et al. (2009) undertook their study of the Aalborg city centre, their data showed that the vast majority of our day is spent 'pausing'. 'Pausing', however, doesn't necessarily mean being at a standstill - you might spend three hours a day commuting to and from work, but within this 'transport capsule' you might be updating your LinkedIn profile or writing emails to work colleagues. The same applies when our participants are at home while connect-

Fig. 34: Animation of GPS data

ing to their social network via Facebook. These are mobilities that our data doesn't capture, but they remain important networked practices which also shape our everyday lives and challenge our understanding of how places are configured.

The map as public sphere

Finally, we take a look at the map as public sphere. Before setting out on this last part of the map analysis, it is useful to recall de Waal's notion of networked publics:

"For decades policy makers, institutions and architects have tried to persuade people to actively participate in shaping their cities. Often these remain top-down trajectories. The bottom-up extreme is a community model rooted in proximity, shared interests and similar lifestyles. Yet this denies the nature of cities as places of heterogeneity and the fact that many urbanites shiver at the thought of village-like parochialism. With digital media new networked publics can be activated, beyond top-down or bottom-up but peer-to-peer and distributed" (de Waal 2012)

We begin by tapping into the online visualization of the GPS tracks, which was also applied in Aalborg Øst. The initial point of the web-map was to provide feedback to the research team as well as the participants. When looking at the web-map, it shows you where you moved and where others moved in a straightforward fashion, similar (but not as seamless) to how apps like Endomondo work . In previous tracking projects, this part of the data collection has been kept as a part of the black-box ((Harder, Bro & Knudsen 2010, Harder et al. 2009, Suenson et al. 2010), so to speak. Not deliberately, to keep data away from users and end-users, but because the focus was on the output and data

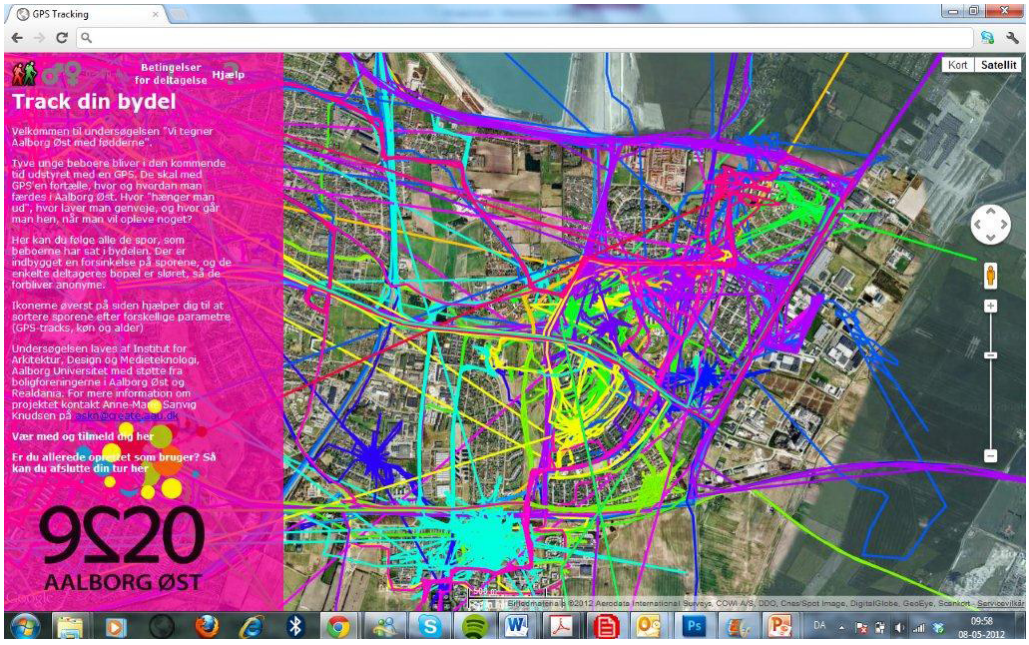


Fig. 35: Online visualisation of GPS tracks

analysis: where do people go, how much time do they spend, when are they in motion and when do they stop? In order to answer these questions, the location data will typically be entered into a database, data will be analysed in a GIS, and then visualized in a GIS map. By displaying the raw data as it emerged - with a 24-hour delay - the data suddenly served a completely different role. What was interesting about visualising the raw data without analysis as such was that there was an immediate quality about it. On one level, the map provided direct feedback to the participant about his or her whereabouts. Additionally, the map allowed for the participants to share their routes with other participants, friends, and family.

"Cool! Now I can show my friend in South Africa what my neighbourhood looks like." (Participant, Vollsmose)

This collective aspect wasn't initially anticipated when the online feature was set up; the feature was originally intended as a way for the participants and the survey team to 'keep track' of how the survey was progressing. Instead, it turned out to be crucial because it enabled a horizontal peer-to-peer communication loop rather than a vertical, expert-driven dissemination of the data-results. This partial perspective of Aalborg Øst which emerged was equally interesting, because it very clearly showed how the notion of community and geographical propinquity need to be challenged when understanding the dynamics of place. When zooming out of the map, patterns emerged which completely ignored the mental and administrative borders which often define Aalborg Øst. Instead, it was defined by a multitude of song lines weaving in and out of each other, and the picture drawn by the participants was a reflection of 20 lives carried out in many different geographies and social networks other than just 'home'.
In order to further elaborate on how the networked interaction amongst locality, user, and technology enables a dimension of sharing and learning collectively, I will include experiences drawn from a research project carried out on the housing estate Vollsmose in Odense, Demark in May 2011. The case is briefly described in the textbox on the following page and it's furthermore reported on in the following publications: Knudsen, Anne-Marie Sanvig & Harder, Henrik 2011a, Knudsen, Kahila 2012. Because this case study was a 1:1 application of the GPS method in an actual planning process - outputs were fed into the master plan - it is useful to draw on in this context. The Vollsmose case is equally comparable to the Aalborg Øst case regarding both context and survey setup. The case did, however, differ from the Aalborg Øst case in one key aspect: mobile phones rather than lommies were used as tracking devices. Even if the technologies are inherently the same, the level of interaction between technology and user was different because the mobile phones were a much more integrated part of the respondents' everyday lives. The mobile phones also allowed for tagging pictures and text to the GPS tracks.

While I in Aalborg only undertook walk-along interviews, I had the opportunity to run a workshop with the participants in Vollsmose where we discussed the GPS maps they had created. This workshop turned out to be fruitful in terms of understanding the potentials of using mobile media technologies as a participatory planning tool. This potential which I will unpack in the following is closely tied in with de Waal's notion of public sphere. At the workshop the participants were presented with the GIS maps, which were generated on the basis of the GPS data collected by the participants. The maps showed how the participants used the neighbourhood, and we had furthermore analyzed how boys and girls each used Vollsmose. What happened when presented with the maps was that the maps instantly resonated with the participants. The maps reflected their movements. It was easy for the participants to read the maps, be-

THE VOLLSMOSE CASE

The housing estate Vollsmose is located at the outskirts of Odense, Denmark's third largest city. Roughly 10.000 people live in Vollsmose, representing over 70 nationalities, and almost 48 percent of its residents are under the age of 24. Vollsmose thus has an ethnically diverse and young population. Planned according to modernist planning ideals, Vollsmose has a distinctively mono-functional, residential character. The distinctive multi-storey tower blocks are surrounded by vast green recreational areas. As a part of a revitalization process, a new master plan is being developed which aims at transforming Vollsmose to a multifunctional neighbourhood under the title Vollsmose2020. Local planners were keen to include young people in this planning process, and in order to challenge traditional participation tools, it was decided to use GPS tracking to give voice to and include this age group.

On a practical level, 20 participants with a predominantly Somali background agreed to take part in the GPS survey. During a couple of weeks in May 2011, they each carried a smart phone with a tracking application that logged their movements. The tracks were then visualized online, allowing participants - and other stakeholders - to view their own as well as their friends' tracks. A pronounced aim of this mapping exercise was to allow the participants 'to map Vollsmose with their own feet' in order to strengthen the participatory aspects of the master plan. The aggregated maps of their GPS tracks were then presented to the participants in a more traditional setup where the participants gave feedback on their GPS tracks on how they use and value Vollsmose and its open public spaces.

cause they recognized their own everyday lives in them. Because the participation process had been indirect - the participants had not been asked consider any particular issues - the maps then turned out to be a fruitful entry point for starting a discussion about which issues were on their minds concerning their neighbourhood.

One striking feature of the GIS maps was that they showed that the green recreational spaces were hardly used, even though many of the participants had mentioned them as important public spaces in Vollsmose. With this finding, based on actual uses of Vollsmose, we had a discussion about how to activate these spaces. The maps helped qualify this dialogue about how the participants use Vollsmose, because they merge the aggregated level and actual uses with the embodied, individual uses. In this instance, the GPS maps made the notion of a networked public very tangible because they were drawn collectively.

The notion of a networked public was even more visible in a sister project named SMS CITY, which was also part of the participation process for Vollsmose 2020. In this project, residents in Vollsmose were asked to "pin" text messages to an interactive map depicting the neighbourhood. What then happened was the emergence of a citizen-to-citizen dialogue when residents started commenting on each other's messages. This iterative "dialogue-loop" was further developed when the local mayor (see fig. 37) commented on the interactive map and the emerging "text pins" during a community meeting. This instant peer-to-peer participation process was enabled by the affordances embedded in the mobile media technologies employed, creating a collective map of Vollsmose which bypassed the top-down/bottom-up dichotomies often embedded in planning processes.

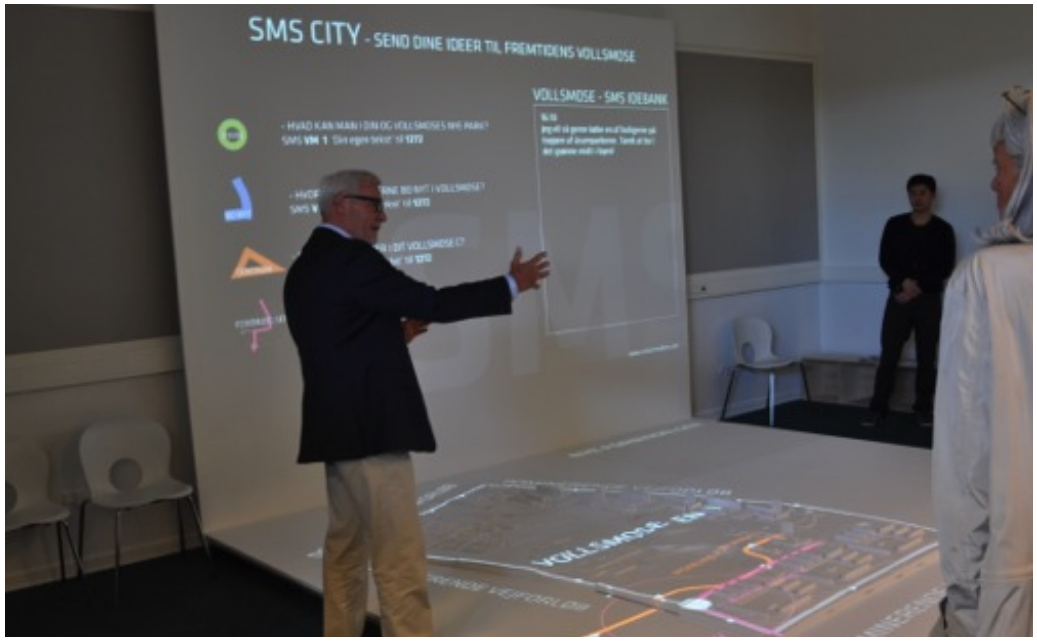


Fig. 37: SMS City event,Vollsmose. Photo: Lasse Anderson

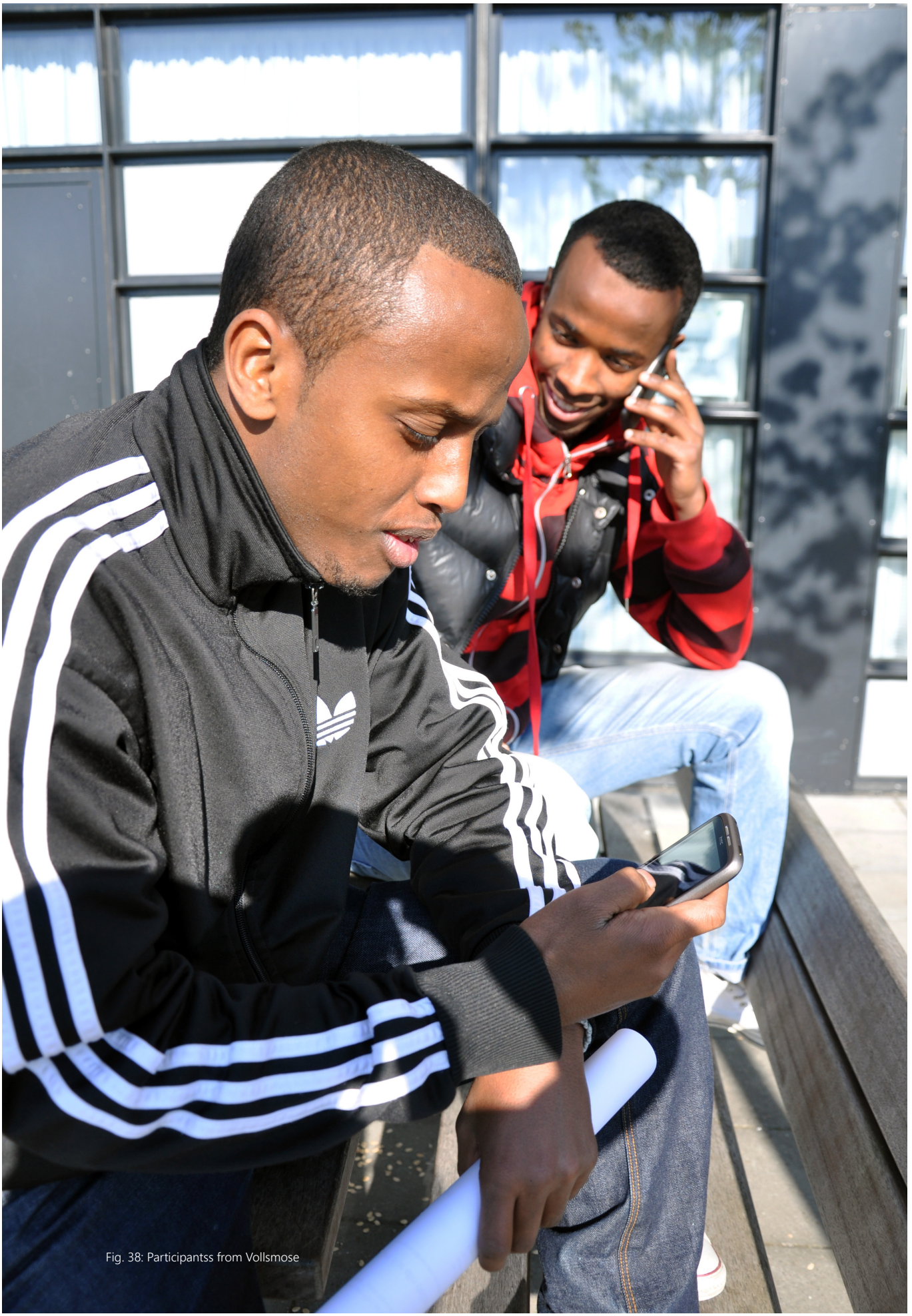


Fig. 38: Participantss from Vollsmose

Summary

This chapter served to bring the empirical level of the research project into work and this quest created many different perspectives on what Aalborg Øst might look like. Mapping was a key word in this process and chapter 8 looks at a multitude of mappings, their meanings, and potentials. I started out exploring Aalborg Øst in a fairly analogous form. The felt map, which was assembled along with local residents, became an eye opener to the place I was working with as well as the more conceptual aspects of the research. This map was the first example of a map that did work in the world and gave me an indication of how maps work as practices. We then moved on to look at what the different GPS maps afforded the understanding of the entanglement amongst user, technology, and place. This analysis was structured around three affordances, based on an adaptation of de Waal's techno-urban imaginaries: map as aggregation, embodiment, and public sphere. When looking at the map as an aggregate of the collected data, we saw that this aspect helps draw a picture of how people actually use their cities. This, in turn, might help raise relevant questions to the planning process. On the other hand, this type of mapping is deceptive because of their persuasive qualities, and should never be treated as an absolute, but only in conjunction with other methods. We then looked at the embodied aspects of the GPS maps. These maps made visible otherwise invisible everyday mobilities and show us how places are made up by (in this instance) moving bodies and their intersecting trajectories. The embodied aspect also has repercussions for how the participant related to the GPS maps, and thus opens up a rich narrative of how places are practiced and valued. This aspect was further unpacked when we engaged with the interviews. Finally, we looked at the map as public sphere and the collective aspects of the GPS maps.

The immediate nature of the data displayed in the online map enabled a shared sense of "drawing" the map together. Secondly, as was shown with the Vollsmose case, because the maps merged the aggregated level with the embodied, it enabled a qualified dialogue about Vollsmose as a place. This was even more obvious with the SMS CITY project where an actual citizen-to-citizen dialogue emerged. In the following chapter we will look at the more affective, embodied, and practiced aspects of the participants' trajectories. Chapter 10 also draws on the lessons unpacked in this chapter by exploring, in more theoretical terms, what it is the GPS maps do.

ON TALK. AALBORG ØST - STEP BY STEP

09

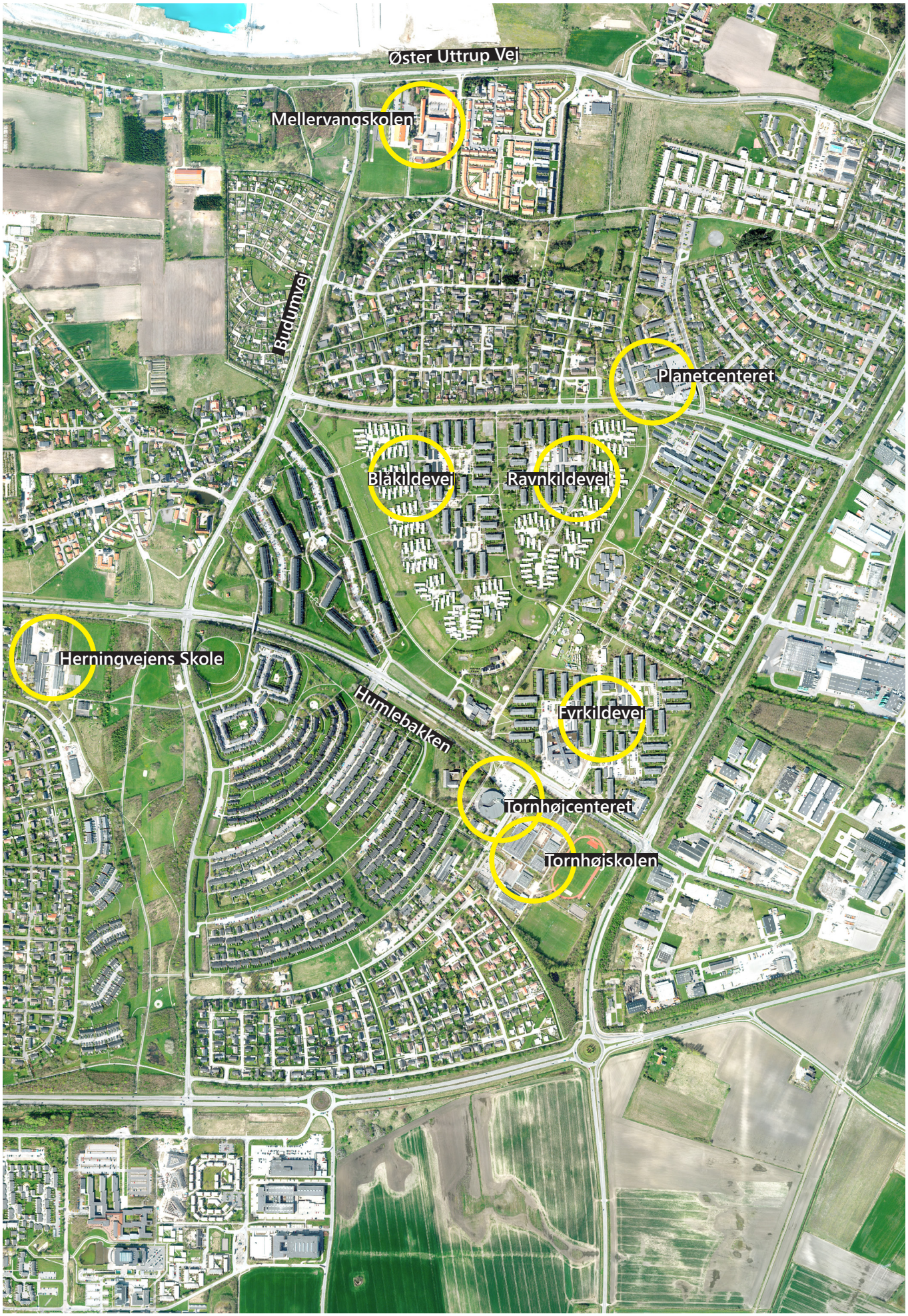
On talk. Aalborg Øst - step by step

Introduction

"Because the act of walking is an intermediate practice, it seems unremarkable and hardly of any interest. The inhabitant does not, so to speak, talk about it, and no causal explanation has yet come to apply to any reductionist filter. This practice therefore ought to be valuable to us because, barely occulted by abstract representations, it still allows one to see how the life of the inhabitant is steeped in quite immediate sensations and impromptu sensations." (Augoyard 2007:19)

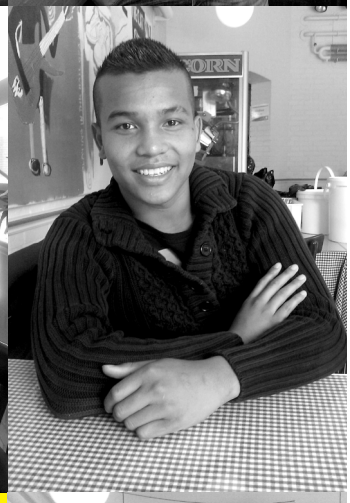
We now move on to engage with the walk-along interviews that I undertook in the fall of 2011 on the basis of the GPS tracks. The aim of the interviews was to add more texture to the tracks and to assemble Aalborg Øst step-by-step by following the footsteps of our participants. While the opening quote in many ways represents an idealized interpretation of walking as a 'pure' practice, I still see it as an inspiring framework for undertaking the walk-along interview because of its emphasis on the embodied and immediate - two qualities I ascribe to this type of interview. I am, however, aware that walking alongside the participants, equipped with camera, microphones, and an arsenal of questions, doesn't make for a 'natural' representation of what a daily routine looks like. It is not the ambition either. As we saw earlier, when looking at the GPS tracks from an aggregate level, they draw up patterns of how the participants move about, but they don't tell us much about how it feels to be in their shoes and what prompts them to choose one route over another. So in order to assemble a picture of Aalborg Øst which includes a more affective aspect, as well, I wanted to let some of our participants lead me through their everyday landscapes and share their daily routes and routines. As also discussed in chapter 5, the routes they choose for the interview are not a 1:1 reflection of their GPS tracks. Instead, they are condensed versions, or snippets, of these routes.

Six participants agreed to be interviewed. Two have opted to be anonymous and the remaining four will be represented by their first names. Rather than walking the reader through each interview, I decided to structure the interview analysis around three of Kusenbach's analytical categories. It is important to emphasize that I didn't want to restrict the participants and their experiences to the categories I have identified when looking at the interviews. Their experiences are individual and don't represent social groupings or generalized experiences as such. I did, however, need to structure the interview analysis around relevant themes which address the various aspects of the participants' daily lives, mobilities, and engagement with the urban environment in order to ease the dissemination of the interviews. The interviews were videotaped as well as recorded on Dictaphone. The video recordings were used for my own reference (see appendix 8) as it is easier to recall the places the participants were talking about with a spatial referent. The video recordings have not been analysed in terms of body language, accentuation, etc. Secondly, having two means of recordings ensured that I had a backup recording in case one of the devices failed, which it inevitably did in one instance.


Øster Uttrup Vej
Mellervangskolen
Budumvej
Planetcenteret
Blåkildevej
Ravnkildevej
Herningvejens Skole
Humlebakken
Fyrkildevej
Tornhøjcenteret
Tornhøjskolen


BRUG FOR ALLE UNGE
نحن بحاجة لكافة الشباب
MAXAAN U BAAHANNAY OHALLEYARADA OO YAR
WE NEED ALL YOUNGSTERS
ہمیں تمام نوجوانوں کی ضرورت ہے


VOGUE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The participants

Anette

Anette is 17 years old. She lives in Aalborg Øst in a flat with her parents. She owns a scooter, which she often rides with her friends. She would really like a car, mostly because her journey to school is long. She attends Social - and Sundhedsskolen in Svenstrup. She gets bus no. 14 to the main bus station in Aalborg-Kennedy Arkaden- and then she catches another bus from there. The journey takes her about an hour and 15 minutes. It means she has an early start in order to be in school on time. She attends SOSU in order to pass the time until she starts national service in August 2012. Anette has a large circle of friends in Aalborg Øst, but her best friend lives in Gug and she also has good friends in Århus. She attended Herningvejens Skole. Apart from four years in Visse, she has lived in Aalborg Øst all her life. Her parents moved to Aalborg Øst in 1982 and they know everything and everybody in the neighbourhood. Anette volunteers at Projekt 9220 as a journalist for the local news bulletin 9220.

Tam

Tam is 17 years old. His parents are from Vietnam and he was born in Århus. When he was just one year old they moved to Aalborg. When he was a young child he lived with his grandparents in what he calls "the center of Aalborg Øst" which refers to the area around Fyrkildevej, Ravnkildevej, and Blåkildevej. He now lives with his parents in the area around Tornhøjparken in a single-dwelling home. Tam attended Tornhøjskolen. Now he attends HTX in Aalborg and after high school he plans on moving to Århus to attend university. After school he mostly focuses on his homework and he frequently uses the library in Aalborg City.

K

K is 17 years old and he lives in the Kildeparken-area. His parents came from Lebanon. He has lived in Aalborg Øst all of his life. He has brought his friend Z along who also lives in the same neighbourhood. K has attended Mellervangskolen and Tornhøjskolen. Now he is in his last year at HTX in Aalborg. He works at a pizza take-away most afternoons and weekends. Both K and Z play football with 'Aalborg Øst' drengene, a loosely organized football club where you just turn up when you want to join in for a game of football. They also attend a Muslim community centre in Aalborg Øst.

The participants

Liv

Liv is 16 years old. She moved to Nørre Tranders when she was 8, where she lived in in a single-dwelling home with her parents and her sister. Now her parents have divorced and she splits her time between her dad, who lives in their home in Nørre Tranders, and her mum, who lives in a housing association flat on the university campus area. Liv finished 9th grade at Herningvejens skole in the summer of 2011 and has just started HTX in Aalborg. On Saturdays and occasionally on Fridays Liv works at Subway, a sandwich bar at Boulevarden in Aalborg city centre. Kayak rowing is her primary hobby. She goes to the kayak club in Nørresundby to practice two or three times a week. Liv also takes flute lessons and plays in a band. She enjoys cycling and often cycles to school and back. Liv is fond of animals: she has a dog and a guinea pig.

Mwanaisha

Mwanaisha is sixteen years old. She lives on Sebbersundvej with her mother and brother. Her family came from Kenya. She finished 9th grade at Tornhøjskolen and she now attends high school at Aalborghus Gymnasium. On weekdays she gets up at 7, and after school she often does homework with her friends. She plays music with Aalborg Garden. They meet once a week for practice and every now and again they are booked for an event on the weekends. When she was in 9th grade she did cheerleading 2-3 times a week. Mwanaisha also has an after-school job in H&M in City Syd. She gets there by bus. She still sees old friends from Aalborg Øst, but it was easier when they were all attending the same school. A friend from school joins us on the walk.

Marie-Louise

Marie-Louise is 16 years old. Marie-Louise's boyfriend joined us on the walk. She went to Herningvejensskole before starting grade 10 at Sofiendal Skole in Aalborg SV. She gets up at 6 every morning except for days when classes start at 10. She lives in the Kildeparken-area of Aalborg Øst. She moved to Aalborg four years ago from Midtjylland. She misses the place where she used to live and would like to move back. She's a football fan and supports FC Midtjylland. She used to play football but she can't find the time anymore. She spends a lot of time doing homework. She likes running, too, and she is planning on running a marathon with her classmates next year. She has a dog named Hera and she enjoys walking her. She has a boyfriend who lives in Klokkerholm, an hour north of Aalborg, and Marie-Louise's dad drives her to Klokkerholm to visit him.

Perspectives on Aalborg Øst

We now start the walks around Aalborg Øst, guided by the six participants, their GPS tracks, and Kusenbach's analytical categories: perceptions of the environment, spatial practices, and social architecture.

Perceptions of the environment (built, social, psychological, etc.)

> The walk-along provides the researcher with an insight into how people "filter" their perceptions of the environment. The affordances embedded in the urban environment are often perceived through these perceptual filters such as our gender, our age, our hobbies, our professions, etc.

Without putting much thought into it, we are often experts in what the urban environment affords our daily routines and activities. As Kusenbach puts it: "Practical knowledge constitutes an indispensable yet often invisible filter of our perception" (Kusenbach 2003:467)When walking around Aalborg Øst with the interviewees I was often struck by the things they saw, which seemed invisible to me partly because they knew the neighbourhood like the backs of their hands; many of them grew up in Aalborg Øst and had intricate knowledge of the place they lived. I, on the other hand, was new to the area and was gradually getting to know the ins and outs of Aalborg Øst during the participant-led walks. The participants were also in different walks of life and often had different preferences than my own, shaped by their ages, genders, hobbies, personal experiences, etc.

One example was Anette, who on our walk took us through the tunnel by Tornhøjcentret which directs pedestrians and cyclists under Humlebakken. The tunnel is a typical piece of interior from the modernist suburb where traffic segregation is so prominent. Made of concrete, dimly lit, and with walls covered in graffiti, the tunnel doesn't immediately make for an inviting place. To me, this type of environment evokes a certain type of gender-related uneasiness. Somehow, I, as a woman, have been coded to perceive such environments as unsafe and my first assumption was that Anette would equally find the tunnel unpleasant; a place one passes as quickly as possible. When asking Anette how she used the tunnel, a new and unexpected perspective unfolded:

A: In fact we usually hang out right there. Right at the edge of the tunnel. Or on top of the tunnel
AM: Let me have a look. Where do you sit?
A: Right there, on the edge. With the legs dangling. It's really cosy. It may be a slightly strange place and people stare a bit.
(...)

AM: So why do you hang out here?
A: If it starts raining, like now, it's a brilliant place. We are sheltered from the rain. At the same time you can keep an eye on who's approaching from this side. You can see if somebody you know is approaching. If anybody is approaching from the other side [Trekanten] you can head over and chat with them. It's clever. You hang out and relax and more people join. Plus, people [Anette and her friends] think it's kind of cool that it's a strange place. The stranger the place, the better.


Smedegården
Tanken ved Fakta
Tunnelen ved Smedegården
Astrupstien
Runderen og motionslegepladsen
Trekanten
Tunnelen ved Tornhøjskolen

Fig. 41: The tunnel by Tornhøjcentret

Instead of telling me that she found the tunnel unsafe - as I anticipated - it turned out the tunnel was one of the favourite hangout spots for the local teens. To the untrained eye, the specific affordances of this particular place were invisible. Anette highlights three aspects which make the tunnel attractive: The tunnel provides shelter from weather; it allows the users to assess who is approaching from either side of the tunnel, and the grassy overhang makes for a cosy spot to enjoy the sun and socialize. These are properties which, we would argue, are closely tied in with how teenagers appropriate the urban environment as a scene for socializing. Recalling Goffman, there are front- and backstage activities that shape the social life of teens, and the urban environment is a vital part of this 'staging' process. When looking at the tunnel, it very much becomes a scene for framing the teens' on-stage activities.

To Annette and her friends the tunnel is a place for interaction and, as a means for staging this interaction, the overhang and the grassy areas next to the tunnel are appropriated. Because the tunnel enables the teens to observe who exactly is approaching, they can use it conveniently as a place for social meetings to happen more organically; people weave in and out of this meeting place in an informal way. But the tunnel also works as a way of staging an 'us' identity which they juxtapose against 'the others': the grown-ups. There is a clear element of 'guerrilla' appropriation taking place when Annette and her friends hang out in and on the tunnel and deliberately seek and relish odd looks from passers-by. These performances help stage and thus establish a group identity. We will look more into such spatial appropriations related to front-and backstage activities when we engage with the spatial practices of the participants. This example serves to show how specific affordances appear, depending on the eyes and bodies engaging with a place and thus how this place is 'filtered'.

To further illustrate this point I want to look at how a certain 'scooter-scape' also emerged. During the interviews and through my activities in Aalborg Øst, I found that scooters hold a prominent, yet contested, status amongst the participants as well as residents. Scooters, as Vogel writes (Vogel 2010), represent what we would call ambivalent mobilities. They are very much a part of the everyday life in Aalborg Øst, and even the soundscape is penetrated by the perpetual noise of scooters buzzing in the background, which was something we particularly noticed when doing the interviews as the conversation sometimes was drowned out by scooter noise. Scooters are an important means of transportation, but maybe more importantly, they also function as a way of socializing; they represent a specific youth culture. Other users of the walkways in Aalborg Øst equally have to deal with the scooters when different modes of transport - pedestrians, bicyclists, mobility scooters, joggers - have to negotiate the walkway space. Because the modernist suburb is based on traffic segregation, the scooters become an even more ambivalent type of mobility: the speed at which they move contradicts the initial layout and intentions of the walkways, which is to provide hassle-free zones where soft road users can move about leisurely. The speed of the scooters is therefore perceived by road users as a danger to other road users. When moving about in Aalborg Øst myself, I also take note of the mobility hierarchy on the walkways and make sure to clear to path whenever a scooter is approaching. Even if the walkways are physically segregated between pedestrians and scooters/cyclists, this doesn't always apply in practice. As a result, the speed bumps (see fig. 43) are a sign of this continuous mobility negotiation. The bumps are put up to force scooters to slow down their speed. However, when viewed with the eyes of a scooter-driver, the speed bump represents a different affordance:

Fig. 42: Scooter scapes, Astrupstien

Fig. 43: Speed bumps, Astrupstien

A: (..) And we don't get the new speed bumps. They make no sense. People are still speeding. Look at that guy there (indsæt billede fra video). He doesn't slow down.
AM: And they were made to make people slow down?
A: Yeah. But nobody slows down. In fact it becomes a competition in how high you can jump. So it only makes it worse.
A scooter driver himself, Z says:
Z: You see the white stripes there. In fact they were also made to prevent scooters from speeding here but they don't work at all.
AM: How are they supposed to work?
Z: It's just small dents [in the road].
K: Z is skilled.
Z: It just jolts a little bit.
K: It doesn't work. It doesn't work at all.
Z: It is nothing at all.
K: You can race across them just as crazy as you like.

Instead of slowing the scooters down, these interventions become an arena where the scooter drivers can test each other's skills, and again, the speed bump becomes much more than just a speed bump when read with the eyes of a young scooter driver. The speed bump instead represents and helps perform a mobility culture which is much more than just transport. In the January 2012 issue of the local newspaper 9220-Det sker i Aalborg Øst a group of the scooter drivers have been interviewed (9220-Det sker i Aalborg Øst Januar- April 2012) :

"The feeling of the power of the machine is so cool (...)" says Thomas. "But we try to be considerate and slow down when we meet other people (...) We are always there for each other in our group - and I think it's better to have a few close friends than lots of acquaintances. We help each other out with the scooters and we are an important part of each other's families. We keep together," says Kenneth.

Similarly, when asking Z and K what they think of the green areas, they equally address a potential that is obvious to scooter drivers. When walking around Aalborg Øst the vast green areas are very prominent. Apart from the wardens grooming the grass and hedges and the occasional dog walker crossing the greens, the green areas lie mostly unused. It turns out, however, that they serve a purpose for the scooter drivers:

AM: What about that lawn? Is that used for anything?
Z: No, not really. Well, yes, to make scooter tracks. That's the only thing they are used for. Sometimes you see a lot of circles [in the grass]. They make skid marks. Like there for example.

What the above examples illustrate is the embodied emphasis of the 'scooter-scape' which is such a fundamental part of the narrative of Aalborg Øst unfolded by my participants. When looking at the GPS tracks with Anette prior to our interview, the lines started opening up new layers of meaning when she identified and correlated a track with an activity such as scooter driving. It wasn't, however, until we physically engaged with the surroundings that these 'scooter-scapes' properly emerged. Our walk around Aalborg Øst evoked these embodied experiences of how scooter cultures are produced socially and physically, and in motion. The embodied, mobile aspect is vital to

understanding this scooter culture in Aalborg Øst: From the perspective of the scooter drivers who possess a bodily aptitude which in turn helps them maneuver the urban environment in motion, Z knows exactly what it feels like to race across the white markings on the pavement on his scooter. The interaction between the scooter drivers and the built environment form a certain type of practical knowledge. But also as a mobility culture, the embodied aspect of the 'scooter-scapes' form an important element of understanding how the scooter drivers appropriate and manipulate their surroundings. When the boys race along Astrupstien it is about speed, but it is also about a sense of belonging, which is very much performed in the motion that we also saw from Anette's tracks. From the perspective of the others - I was one such representative - the sound of scooters buzzing in the background and the negotiation of the walkway space when we walked along Astrupstien also formed a useful embodied aspect to understanding the ambivalent mobilities of scooters in Aalborg Øst.

Spatial practices

The walk-along interview allows the researcher to learn more about how and to what extent people engage with the urban environment. Different types of spatial practices call for different degrees and types of engagement. Our engagement can also have different textures of meaning; a seemingly mundane bus journey to work may be transformed into a meditative space.

From perceptions of the environment we now move on to look at the spatial practices of the participants. These two themes are in many ways closely related. How we practice a given place is closely related to our perceptions and the practical knowledge we tie in with a place. When looking at spatial practices we try to get beyond a merely functional expression of people's activities and get closer to the values and meanings people give to their practices. These are aspects that are not captured in our GPS tracks. When a group of the local guys hang out at the petrol station, this practice is drenched in many more meanings than the obvious one: filling their cars and scooters with petrol. And when groups of teens drift around Aalborg Øst's walkways, this practice is not as aimless as it may appear: "What may appear to an independent observer as a straightforward and relatively uneventful commute to work can actually be saturated with layers and contexts of meaning that subjectively transform a mundane routine into something completely different." (Kusenbach 2003:470). These are aspects that we look at in this section when engaging with the spatial practices of the participants. I seek to investigate how the participants frame their everyday mobilities in Aalborg Øst and how these practices interact with the urban environment.

One of the major themes emerging when interviewing the participants was the way many of them fondly spoke of 'walking' Aalborg Øst. It turned out that the format of the interview suited this particular practice well, and thus formed an excellent framework for engaging with what walking actually meant to the participants.

When looking at the overall 'consumption' of the urban environment by both boys and girls participating in the survey, a pattern shaped around the walkways clearly took shape. Despite the fact that many of the participants were studying for exams during the survey, we still see how the paths around Aalborg Øst are used extensively. When I asked the participants to guide me around their neighbourhood, the walkways formed a natural framework. In more than one sense, they function as the arteries for Aalborg Øst. On a functional level, they guide soft road users around the neighbourhood.

To the outsider, though, the path network is confusing to navigate and I still go via Humlebakken, where lorries pass me at 70 km an hour when I make my way to Aalborg Øst, because my experience is that I get lost in the path network. To the residents, the experienced users who know their way around, the paths certainly serve as a means to get from one place to the other like Liv, who uses the path network to get from her dad's place in Nørre Tranders to her mum's place at the university campus. The paths, however, are more than just a means of getting from point A to B, a fact that a heated debate about the future of the walkways exposed. Himmerland Housing Association proposed altering the strict traffic segregation principle in Aalborg Øst by opening up for bus traffic along Astrupstien, a main thoroughfare in the neighbourhood, which caused an uproar amongst many of the residents and was a theme that was often mentioned when I had informal chats with residents during the festival "Beboerkaravanen" in May 2011. As it turned out, the paths to them represented the 'heart of Aalborg Øst' and a lot of symbolic meaning was tied up in them. In many ways, the paths represented an identity for the neighbourhood. Similarly, when interviewing the participants, it turned out that the paths represented an important space through which they expressed their identity, as well.

We again turn to Anette, who was an engaging guide on a walk around Aalborg Øst. While all of our participants mentioned the paths - and walking - as an everyday practice, Anette was particularly articulate about how she and her friends use the paths and the surrounding places they appropriate:

A: We walk, well, about 10 km every night. You don't feel it as such, because we just walk at a slow pace. We walk between Trekanten and the pizzeria [by Planetcentret] maybe 4 or 5 times a night.

AM: And again this is in a group?

A: Yes. And then we settle down somewhere and then up again and move about a bit. It is not because we are headed anywhere specifically. You just end up somewhere and then you think: 'ok, lets hang out here'. That way we find new places every time. Almost every night we find a new place. And it is pretty cool to go: 'Ok, this is our place now!'

(...)

AM: What if you had your own place? Say with a sign on it saying 'our place!'

A: That would be great. If people knew it was ok for us to hang out here and that it was ok for us to do as we want. It would make our lives so much easier, because we wouldn't have to walk about for 7 hours, find a place where we can hang out and then have to go home an hour later. That's how we spend most of our time. Looking for places where there's nobody here to tell us what we can or can't do.

In the above quote Anette points to two conflicting aspects of 'walking' Aalborg Øst, an everyday mobility practice that she and her friends use frequently. One could characterize this practice as 'drifting', and to the outsider it may appear aimless, which it in some sense is. As she explicitly says, their walks around the neighbourhood don't have a destination, as such. But that doesn't mean their walks are pointless. The walks are used as a way of staging and performing a group identity. When Anette says that they appropriate places, there's more at stake than just a place to hang out. The drifting partly stems from a lack of alternatives but it is also a way of carving out a sense of belonging. Not just between them and 'the adults' but also between them and other groups of teenagers. This relates to the social architecture of the neighbourhood which we will soon look at. Walking, in other words, has a much more complex set of meanings than just moving from A to B. A large part of this spatial practice relates to appropriation of places, an issue that is also closely tied to the perception of place. When Anette and her friends appropriate a place - the tunnel or a grassy corner along Astrupstien - they declare it their territory by their sheer presence. Without this presence the territory is lost. In that respect, they very much create their places on the go; places that are not necessarily defined as designated areas but as places that emerge dynamically. As we saw with the tunnel, these places also emerge according to how they facilitate the social life that is played out between the teens. Even if Anette is in some sense calling for a place she can claim as hers, she mimes a lot of the elements of their walking practices when identifying what such a place might look like:

AM: What would such a place look like?

A: Lots of benches! And maybe a roof for shelter.

AM: Still outdoors?

A: Still outdoors. We like to spend time outdoors and get lots of fresh air. If we are indoors we become so lazy. We need fresh air and we want to be able to just drift. It's OK if the place is a bit away. If we had to walk 5 minutes I wouldn't mind.

AM: Where would you want this place to be located? Do you have an idea of where would be a good place?

A: Actually, right behind Runderen is a huge grass lawn, which doesn't get used much - other than as a thoroughfare. That would make sense. It is hidden behind some trees and buildings, and we could just be ourselves there. People wouldn't pass by all the time and stare at us. It shouldn't be too small either. If we had such a place there would be at least 30-40 people using the benches. That would be so cool!

While the theme of meeting places arises again and again, something else is at play, too. It is not just about meeting places. When Anette describes 'a place of their own' it is more about the acknowledgement of their right to their neighbourhood than the materialization of an actual location. In order to call a place their own, you sense that Anette and her friends are looking for acceptance from the surroundings. In that respect, the presence and social practices of the teens often become contested and the places they appropriate equally become contested. Liv touches upon this:

AM: What makes a neighbourhood 'teen friendly'?

L: That we have places to meet and where you know that the adults are not indifferent. Like when you feel that you are just in their way.

Liv, on the other hand, feels welcomed in Aalborg Øst and doesn't experience the same degree of 'being in the way' as Anette expresses. It might be because she doesn't 'drift' in large groups, Liv prefers walking around Aalborg Øst with one or two friends. To her, this practice represents privacy and intimacy:

L: I think they [the green spaces and the paths] mean a lot. I like sitting outdoors when the weather is nice. It gives me a sense of freedom. It's much easier to talk when you are out here with a friend. You can talk about private things when you are out here on your own. Unlike when you are at home. Your sister might listen in. And you can keep an eye on the people passing by.

AM: So you use it as a private space?
L: Yes, I have done anyway. You find a bench and sit there with a friend.
(...)
AM: Would you use that kind of bench if you were out walking with a friend? [AM points to a bench next to the path]

L: No, not there. There's too many people passing by. I'd want a more secluded place. If there was a bench up there by that bush we would probably use it. That's the kind of place I would use.
AM: Because it is more secluded then?

L: Yes. But you can still keep an eye on people. I think that's kind of cosy.
AM: Why is that cosy?
L: I'm not sure. I just like to watch people when they pass by. You are not alone but at the same time you can talk about private stuff.

When looking at this quote from a Goffmanian perspective, the green spaces and the walkways become arenas where Liv can be backstage. She adopts the outdoor spaces as her own private living room where she can express herself more freely and retreat from eavesdropping siblings and parents. However, while Liv enjoys the feeling of being alone and independent, at the same time she appreciates not actually being alone and she carefully picks her places for retreat. These are places where she can be in control and watch other people walk by without being frontstage herself. Anette, who explicitly uses the walkways and green spaces as an arena for frontstage social interaction, also sees Aalborg Øst as a place where she can relax - as opposed to the city centre. She ties this is in with a spatial practice which she describes as 'being bored' [at kede sig]. 'Being bored' is closely tied in with drifting around the familiar walkways. When she first introduced this concept to me I was confused. Does 'being bored' mean being bored? No, not really. It has a different and much more subtle meaning and Anette tries to explain to me what it means when she and her friends walk around Aalborg Øst 'being bored':

A: Yes, you are bored together. You are bored in a big group and you just chat and chill out. It's very relaxing in a way. Then you can just go: 'OK, let just be bored'.
AM: When you say 'relaxing' what do you mean, exactly? Is it because you sit down and relax or does it mean relax in the company of the people you hang out with?
A: I think it's more mentally I relax. You don't need to worry about how you present yourself as you need to do in many other places. Say, if you went into the city centre you couldn't just behave silly. Out here you can behave as you like. So if you want to run around screaming like an idiot, that's what you do. And if you just want to chill out and look like an idiot without any makeup on or that, you just do that. There are no demands out here. And it doesn't matter who you meet, even if you don't know them.

Fig. 45: Interview sequences

While Lieberg (Lieberg 1995) draws up a dichotomy between the city centre as places for frontstage interaction and the local neighbourhood as places for backstage retreat, these examples show that the practice of frontstage and backstage activities is much more nuanced. The walkways and green spaces take their meaning according to the spatial practices the teenagers employ. Sometimes the neighbourhood represents a cosy and safe arena where they can just be themselves - be bored together - and other times it represents a place where they stage their identities between each other and other groups in the neighbourhood. And sometimes the walkways are just a means to get from point A to B.

Life, however, unfolds in other geographies than just the neighbourhood. When looking at figure 46, the map clearly shows that the participants also use other parts of the city - the city centre is where their routes primarily take them. These routes, it turns out, are closely related to where they are in their lives. Interestingly, when talking about 'walking' Aalborg Øst, many of the participants talk about this practice in the past tense. 'Walking' Aalborg Øst is very much something you do during your teenage years when still attending the local folkeskole (lower secondary education). In those years the bonds to the local area are strong, your friends live nearby, and the social arena is to a large extent the neighbourhood. At the time of the interviews all of the participants were in a transitory phase where they were loosening the ties to Aalborg Øst. They were either attending high school or vocational training and thus expanding their everyday social arena to other parts of the city. As K put it: "Yes. We used to anyway [meet at Runderen]. Until we started high school and all that. When we attended folkeskolen we had lots of time. That was when we walked. We always met there in the evening. But not that much anymore. I rarely come here anymore."

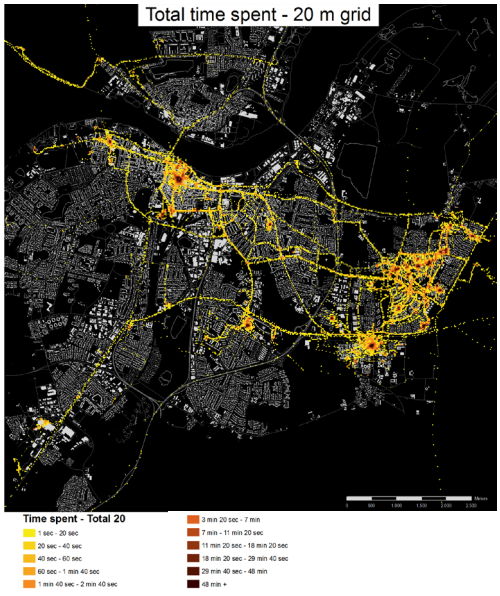


Fig. 46: Total time spent, men and women

Most participants are busy with school and hobbies and they use Aalborg Øst as a base for relaxing and doing homework more than socializing. Instead, the city centre has become an arena where they play out a new phase of their social life. Due to the limited geographical scope of the walk-along interviews, we didn't explore the actual spatial practices of their uses of the city centre. When looking at their tracks, however, and when walking around Aalborg Øst, the city centre emerged again and again as an important place, a central arena for them to perform and engage in new social relations. Anette told me that she had started visiting the city centre when she was 12-13 years old. But as she put it: "We didn't have much to do there anyway. We didn't have money all the time, you know. So we were like: 'We go into the city centre just to walk around? We can do that here and we are familiar with everything here and it is not as crowded. You can just be yourself out here.'" This perception of the city centre as an alien place is gradually changing, because their everyday lives are changing. The safety of the

local neighbourhood is becoming redundant as new friendships are established across different geographies of the city. Mwanaisha describes this transition:

M: I get up around 7 and then I catch the bus at twenty to 7. Then I'm at school until…well, it depends…15.30 or 13.30. I either stay at my school and do my homework with some of my friends, and then I go to work; or I head home and do homework and relax. My friends are either from my new high school or they attend other high schools so we don't hang out much out here anymore. They are the people I see the most. When we hang out it's mostly in the city centre.

These are everyday routines which several of the girls subscribe to. They meet with friends at Baresso, a coffee chain; at the library; or they go (window) shopping. The new waterfront park Jomfru Ane Parken is unanimously popular with the participants. The park was inaugurated in 2011 and has become a popular meeting place in Aalborg across different social classes and age groups. Jomfru Ane Parken has facilities for football, basketball, and swimming, and the busy waterfront is a good place for people – and in particular, girls – watching, as K and Z point out. On a sunny summer day, the park is typically swarming with people socializing, playing basketball, football, and skateboarding. In a recent study of teenage girls' uses of Aalborg city centre, Rotbøll Jørgensen (Jørgensen 2011a) shows how the uses and spatial practices of this group are highly guided by their gender. A space like the football pitch at the waterfront is perceived as masculine by the girls who prefer more passive strategies like watching their peers play football or basketball. Shopping and meeting at a café are also perceived as 'proper' girls' activities and the girls rarely challenge the program of the urban environment through their spatial practices. This is their way of performing a coded gender practice, and even if their strategies are passive their performance is very much front stage: it is about performing their gender. A similar pattern was found in the Vollsmose study, where a multifunctional sports pitch had become a popular meeting spot for the local teens. It was, however, the boys who primarily used the pitch for playing football and basketball while the girls sat in groups in the vicinity of the sports pitch, chatting and watching the boys perform. This raises a more fundamental question about to what extents we need to consider gender in the way urban spaces are designed. As a girl from Vollsmose put it:

"Remember sports facilities for girls as well as boys. Personally I have never seen a girl on a skateboard!""

It is beyond the scope of this research project to thoroughly investigate how gender impacts our spatial practices and, in turn, how the urban environment encodes gendered practices. These are, however, relevant question to bring forward, and judging by what the participants tell us, there is a difference in the way boys and girls appropriate the urban environment. In that context, Jomfru Ane Parken might form an interesting study in how urban design either reinforces or allows users to challenge gender stereotypes.

While a place like Jomfru Ane Parken makes for an interesting public domain, following Hajer and Reindorp's conceptualization, other relevant public domains emerge during the interviews (Hajer 2001). One public domain which emerged was Facebook. Harder (2010) has previously written on how virtual public spaces are in opposition or competition with actual physical public spaces. The findings from this study don't support this opposition;

instead, they show that 'real life' public spaces are still very important domains for teens to consolidate their social life and identity. What it does suggest, however, is that mobile media technologies pose new ways of engaging with public spaces and it doesn't make sense to apply the strict border between virtual and physical space when looking at how we conceptualize public space. Recalling chapter 4, our mobile media technologies have created new and embodied ways of engaging with each other and the urban environment, and this is a phenomenon that also shows in our interviews. Facebook is an important tool to stay in touch and keep posted on your friends' whereabouts. In preparation for the interview, Marie-Louise had taken a series of pictures of her everyday life. One of these pictures shows her Facebook profile. To her, Facebook is an extremely important element of her social life. With the help of her mobile phone, she orchestrates and enacts her social networks through Facebook. But importantly, these interactions do not happen without actual physical locations. Anette points to the same way of creating meeting places on the go:

A: Well, when we are hanging out there's usually 10-12 of us. It is not always the same 10-12 people. It could easily be 7 of the usual suspects and the rest are people that we just bump into. Most of the time it is just 2-3 of us that meet up and we end up being a huge group.
AM: How do you contact each other and keep track of where your friends are?
A: Mobile. Facebook. People have Facebook on their phones and it tells you where they are located (...) So you always know where your friends are. If you post a status saying: "We are chilling here", people turn up 2 seconds later. We know where they are. It is pretty handy.

This way of organizing their social lives also has implications for how public spaces are practiced. Even though the participants still use 'old fashioned' ways of meeting up - say 4 o'clock at Baresso - meeting up 'on the go' makes public spaces more fluid and network-based, and this poses new challenges to how we understand public space. Drawing from the previous section on how the urban environment is perceived, there might be fruitful lessons to be learned if combining research on how people create meeting places 'on-the-go' and how these places specifically afford meaningful meetings when virtual and physical merge. These are spatial practices which still remain unexplored, but the employment of mobile media technologies actually makes it possible to access such experiences and perceptions from an embodied perspective. In that respect, mobile media technologies become an active component in shaping new forms of interactions in public spaces, but they also become a tool for accessing valuable information on how the urban environment is perceived and valued. In this section we have looked at how spatial practices take shape and thus embed different meanings into the urban environment. The GPS mappings, along with the walk-along interviews, have provided access to a more nuanced understanding of how the participants practice the urban environment and what meaning they inscribe on these practices. These meanings are highly dependent on the social context, and for this age group, being able to perform and 'stage' their interactions with peers in public spaces is highly important. When engaging with the way this age group uses and appropriates the urban environment, a rich source of knowledge opens up which clearly demonstrates the need to understand people's everyday mobilities as something more than just an instrumental moving from A to B. When we gain access to such mobile 'value-making' by tapping into how people actually practice the urban environment we also gain valuable information on how to qualify future design

and planning interventions. In the following I tap further into these invisible inscriptions of meanings by looking at the social geographies which unfolded during the interviews.

Social architecture

Walk-along interviews help map out the social architecture of places. By literally walking the borders of how a place is laid out socially, one becomes aware of the invisible demarcations of the social geographies of place. A walk-along interview thus provides access to not just with whom social relations are formed, but also where and how these relations are formed.

When doing the walk-along interviews it quickly became apparent that on different levels we were also walking the social geography of Aalbog Øst, and beyond. The GPS tracks also told a story of how the social spheres of Aalborg Øst are laid out. When initially engaging with Aalborg Øst, the intricate social architecture of the neighbourhood was far from apparent. After having toured the many walkways guided by the participants, a much more nuanced picture of the neighbourhood emerged. Interestingly, they all, according to where in Aalborg Øst they lived, positioned themselves differently to the social and material fabric of Aalborg Øst. This sense of belonging relates to an internal and external perception of what constitutes Aalborg Øst which we will elaborate on in the following.

We have previously looked at how the teens use the tunnel by Tornhøjskolen as a space for social interaction. The tunnels, which lead pedestrians underneath the main roads, are distinctive features of Aalborg Øst and are found in numerous places. During the interviews it turned out that the tunnels also function as landmarks, or demarcations of the social geography of Aalborg Øst. Many of the participants used the tunnels as a way of sketching which parts of Aalborg Øst they belonged to - and which they didn't. When looking at the how this internal social geography is laid out, K and his friend Z define Aalborg Øst as the geography that runs between the tunnel by Tornhøjskolen and Planetcentret. They both live on Fyrkildevej and see this part of Aalborg Øst as theirs: "Yes, it is from this bridge to the next. This is where all the activities are." Their friends mostly live on Fyrkildevej, Ravnkildevej, and Blåkildevej. Beyond Tornhøjcentret the mental map fades out. At the other end of Astrupstien, by Planetcenret, the petrol station is an important marker in the boys' social geography. This is where the older boys meet up in the evenings with their cars and scooters. This is a particular practice which is tied in with a sense of community among the boys. You sense, however, that this community is not for everyone, there is a certain level of hierarchy and prestige attached to hanging out at the parking lot and, in particular, in owning your own car:

Z: Those who have their own car, they all meet at night in front of Fakta [supermarked]. At the parking lot. And then they stand there.

AM: What do you do, exactly?

K: Pretend to be cool!

Z: It sounds stupid, but they just stand there. Loud music and they stand next to their cars.

K: And chat.

Fig. 47: Fyrkildevej

Fig. 48: Petrol station by Planetcentret

For K and Z, meeting up in the parking lot is a way of socializing and positioning themselves as a group and within the group. Their presence sometimes causes conflicts, and K notices that the police often swing by, expecting to find trouble: "They [the police] think we are causing trouble, but we don't. It's just the way we are out here. We just hang out in the evenings."Klinker and Bilde (2009) have looked at how a group of teens in Albertslund, a suburb of Copenhagen, employ the street as a way of creating a sense of belonging and community in opposition to other communities from which they feel excluded. Drawing on Swedish sociologist Ove Sernhede, they identify a certain type of territoriality enacted by the teens, which I recognize, not just with K and Z, but with most of the participants. Klinker and Bilde term this type of territoriality 'bydelsnationalisme' or 'nationalism of the neighbourhood'. It is implied in K's comment "It's just the way we are out here," and Tam also explicitly expresses this form of territoriality: "We almost have our own little cult here, which is proud of being from Aalborg Øst. We call it 9220. That's where we are from."

Many of the participants echo and express a sense of pride of being from Aalborg Øst like Tam does in the above quote. This territoriality is evoked in particular when groups from other neighbourhood enter their 'territory'. This manifests itself at the annual Majfest when, according to Anette, outsiders come just to make trouble. K and Z also make this distinction between 'us from 9220' and the rest:

Z: There's never problems in Aalborg Øst.
K: Well, within Aalborg Øst. There's never problems.
Z: It's only outsiders who create trouble.
AM: When you say outsiders, where do they come from then?
K: It can be different places. Nørresundby, the city centre, Vejgård, Gug. That kind of place. But within Aalborg Øst there's hardly any problems.

By using 'the outsiders' as a perceived threat, the participants create a narrative based on solidarity and brotherhood in 9220. When digging a bit deeper, it soon becomes clear, however, that 9220 is not just one big happy family, but in the optic of the teens, many groups and territories exist within the larger narrative of 9220. Anette tells me that there are about five or six big groups in Aalborg Øst, some get on and some don't. Anette defines the other side of the tunnel by Planetcentret as the "bad side of Aalborg Øst. If you cross that tunnel, it's on your own risk. You will get into trouble. I'm not kidding. That's the way it is." Again, the tunnel serves as a marker for a social geography otherwise invisible. Liv equally uses the tunnels as a demarcation of her world - and the rest of Aalborg Øst. She grew up in Nørretranders, which is one of the small villages Aalborg Øst is built around. As the crow flies, there is about 1 kilometer from Nørretranders to Runderen, the heart of Aalborg Øst as defined by K. When asking Liv how she sees Aalborg Øst, she disassociates herself from the 9220 identity. She does this by deliberately not taking part in the practice of 'walking' Aalborg Øst. But also by treading a different geography, she disassociates herself from that distinctive sense of being from Aalborg Øst, which some of the other participants express:

AM: You grew up in Nørretranders. Are there places in Aalborg Øst you don't use?

L: Yes. Down by Blåkildevej, Fyrkilde, and that. I have never really been there.
AM: For any particular reason?

L: No. I just don't really know anybody who lives there. The only place I use is Fakta, where I sometimes go on my bike. [We cross the tunnel under Budumvej]
AM: Now we're on the other side.
(...)

L: Yes. It is completely divided by Budumvej.

AM: Do you feel that division in your everyday life? That there are different areas in Aalborg Øst. Does it feel divided?

L: Yes, I think so. You feel it if you are talking to someone from the city centre and tell them you live in Aalborg Øst. What they associate Aalborg Øst with is Fyrkildevej and Blåkildevej, where there has been shootings. It's a completely different place. It's not that bad, but to be honest I wouldn't want to live at Fyrkildevej.

AM: Why not?

L: Because you hear so many things. It's a completely different neighbourhood.

To Liv, Aalborg Øst is the area around Astrupstien which K and Z initially pointed out. She is not, however, interested in being associated with someone from Aalborg Øst. Tam expresses the same detached territoriality. While he has taken part of the walking and 'scootering' Aalborg Øst, he, like Liv, doesn't associate himself with being from Aalborg Øst. He refers to Blåkildevej and Fyrkildevej as the centre of Aaborg Øst. Where he lives, in a single-dwelling housing area, is simply referred to as 'the other side of the tunnel'. Throughout the interview it is obvious that Tam is slightly bewildered as to why I want to talk to him about Aalborg Øst, as he clearly doesn't see himself as someone from the neighbourhood. This doesn't make for the most dynamic interview, but when later rereading the interview I realize that Tam's reluctance to speak about Aalborg in fact tells me a lot about the ambivalent territorialities which are embedded in the narratives my participants create around Aalborg Øst. These ambivalent territorialities are tied in with the popular perception of Aalborg Øst as a stigmatized neighbourhood, something which all the participants are acutely aware of, but handle and articulate in different ways. Liv and Tam, as we have seen in the above, disassociate themselves with being from Aalborg Øst altogether. Tam's parents moved from 'central' Aalborg Øst to 'the other side of the tunnel' because they thought the environment was too rough: "My parents didn't really like it when I hung out with them [friends from Aalborg Øst]. They had the same impression of Aalborg Øst as everybody else. That it is only criminals who vandalize and make trouble. But my friends... They might make a bit of trouble if they were bored but they are good guys. They are just hanging out, so it's not that big a deal. "

So while Tam in one sense sympathizes with the 'real' Aalborg Øst, he is also very aware of not being coerced into a stigmatized identity. Liv uses the same strategy, and while she has never

lived in 'central' Aalborg Øst, it is less acute for her to disassociate herself from this territorial identity. For participants like Anette, K, and Z, who live and grew up in the heart of Aalborg Øst, they use the 9220-identity actively and deliberately. They are proud to be from Aalborg Øst and they seemed to say: "Hey, we don't have a problem with where we are from!" As Z points out, it is only when speaking to people who don't live in Aalborg Øst that being from Aalborg Øst actually becomes an issue. So while they are all just getting on with their everyday lives - and they unfold in many different social and geographical settings - for all of the participants it is, however, important to bring forward the message that they are not bad people because they are from a certain neighbourhood. This is an issue which often surfaces when investigating neighbourhood stigma. In her study of Avedøre, Mazanti (2002) similarly found that the residents were happy about where they lived, but were greatly annoyed by everybody else's opinion about their neighbourhood. The same issues surfaced in the Vollsmose study.

When looking at the social architecture and geographies of Aalborg Øst, I therefore found a prism of social relations and identities. These identities are to a large extent tied up with a broader discourse on what other people think of Aalborg Øst. This discourse was clearly embedded in how the participants created their narratives around their neighbourhood, and it forced the participants to position themselves in relation to this identity. While the participants are getting on with their lives and enacting their social relationships and identities, as we have also seen in the previous sections, the social geography becomes distinctive in Aalborg Øst in the sense that the teens I spoke to all had to deal with the surrounding's imagined geographies of their neighbourhood. Even if being from Aalborg Øst was not an issue per se in their everyday lives, it still shaped their ways of practicing their group identity through hanging out in Aalborg Øst. The practice of drifting and hanging out was clearly, as observed with Tam and Liv, associated with a distinctive 9220-identity.

Summary

In this chapter, the walk-along interviews were unfolded in conversation with the GPS tracks. Six participants led me on walks around Aalborg Øst while sharing their perceptions on their neighbourhood, and they added a new, affective layer to the GPS maps they had assembled. The walks served to create a richer, yet open-ended narrative about Aalborg Øst and showed how the participants relate to their neighbourhood and how they bring it into being through their everyday practices. The interviews were structured around Kusenbach's three categories: perceptions of the environment, spatial practices, and social architecture.

First, we looked at how the participants perceive their environment. The way we perceive, and in turn engage with, the built environment is invariably shaped by our personal preferences. A skateboarder looks for different affordances than what a car driver does. Through the participant-led walks, a 'teenage' perspective opened up to me that which had been otherwise invisible. Because teens often stage their social identities in public spaces, they look for features which afford these activities. This perspective was unpacked by Anette who showed me which places in Aalborg Øst worked as appropriate settings for her social life. Similarly, an important perspective became visible - and audible - when walking Aalborg Øst. Scooters are an important part of teenage cultures in Aalborg Øst, and the interviews also uncovered the contested scooter mobilities in Aalborg Øst. These embodied, performative, and ambivalent scooter practices hold an interesting potential for further research. In close relation to perceptions of the environment, I looked at how the participants spatially practice Aalborg Øst. The aim of applying this analytical lens was to get

beyond the merely functional aspect of people's practices. This exercise was useful in terms of adding a more qualitative layer to the GPS tracks as they easily end up representing an aggregated and functional "A to B" mobility.

One prominent spatial practice amongst the participants was walking. And as it turned out, walking was entrenched in many other meanings than just getting from one place to another. The participants used walking - or drifting - as a way of playing out social identities and social geographies of Aalborg Øst. Walking is a way of appropriating places and negotiating their right to Aalborg Øst. When engaging with walking as a spatial practice, I also got a peek into how they use the neighbourhood as well as the city centre as arenas in which they perform their social identities. This performative aspect is further enhanced by the participants' presence on Facebook, which adds another interactive layer to public space as they create their meeting places "on-the-go". When adding this qualitative layer to the GPS tracks, relevant information about how people practice the city emerge which in turn is useful when qualifying planning and design interventions. Walking is also tied in with how the social architecture of Aalborg Øst is played out. All the participants articulated a sense of territoriality by either associating or disassociating themselves with Aalborg Øst, something that also tied into their spatial practices. The stigma which outsiders often assign Aalborg Øst was thus echoed in the way the participants related to and engaged with their own neighbourhood.

‘ON WHAT GPS TRACKING DOES’

10

‘On what GPS tracking does’

Introduction

Returning to the introduction of this dissertation, there was one pressing question which became central to how I framed and positioned the research project theoretically. As briefly discussed in the introduction, I had a feeling that there was something more at play than just using GPS tracking as a methodology. So in this chapter, we adjust the lens slightly and look at what happens when GPS tracking moves from being a research method to being the research object. What is the “more-than” embedded in the interplay amongst user, place, and GPS technology? By synthesizing the metatheoretical framework with the empirical findings I look at what GPS tracking does: what does it afford the knowledge production? The point of undertaking this exercise is to qualify the method and circle in on what it contributes to urban planning in more general terms.

First, I want to return to the online map to recap why it was that this map got me on the track, so to speak. When I handed out the GPS devices to the participants in June 2011 this part of the research project remained fairly un-reflected. The initial project brief was to undertake GPS tracking in order to find out how a group of teenagers moved about in Aalborg Øst. This enquiry was not situated in a broader theoretical framework, and up until that point, it felt more like an appendix than an integrated part of the research project. It wasn’t until later that summer - after an encounter with Connie Svabo’s PhD dissertation “Portable objects at the museum”(Svabo 2010) and an STS Summer school in Sardinia - that the penny dropped and it dawned on me what I was looking at.

Svabo works with a strongly ANT-inspired approach to how portable objects, such as mobile phone cameras, mediate museum exhibition content. When viewing the mapping process from this perspective, the map which was emerging was something more than just a map. Suddenly, it wasn’t just about trying to figure out what I was looking for. What was interesting wasn’t just the quantifiable representation of where the participants went and for how long. Instead, what caught my attention was the mediation taking place. It was about what I was looking at. What happened practically, and visually not least, was that the participants started drawing colourful lines on the map with their feet. As if we had attached a string of yarn to each one of them, their movements started forming an intricate pattern, with lines weaving in and out of each other. There was a quality to these immediate and raw drawings of the participants’ movements that at the time I didn’t have the vocabulary to articulate. After subsequently having spent some time mapping out the metatheoretical framework for the research project, I will now attempt to unpack this argument in the following sections. I structure the analysis around two intersecting “levels”. One looks at what the GPS tracking does when we investigate the urban as emergence, and the other looks at what the GPS tracking does when people draw up their individual and embodied song lines. With the emphasis on doing I try to pinpoint what GPS tracking affords urban planning as a method. It is important to bear in mind that the two “levels” of the analysis are intersecting and not oppositional.

Investigating the urban as emergence

One of the overarching objectives of this research project is to investigate the (sub) urban as an emergent phenomenon. Rather than looking at the suburb as an end-result, I wanted to look at it through practice and how it emerges through intersecting lines of everyday mobility. I was particularly interested in moving beyond the understanding of places as “bounded entities or sedentary containers of geographical propinquity across which separate ‘cultures’ circulate in a largely face-to-face ‘metaphysics of presence’” (Urry, 2000,2007;.

Sheller 2011). Instead, I want to draw on a relational understanding of place, and in order to do this I decided to employ the relational and procedural ontology of ANT. Recalling the ontological framework unpacked in chapter 3, we bring realities into being through our methods. In this instance I brought realities into being by intertwining GPS technologies, people, places, and everyday routines. Through this entanglement I have enacted a series of perspectives on what a place like Aalborg Øst might look like. Not by depicting it as such, but by following the actors and drawing up pictures of how this place emerges through everyday practices.

A first step in capturing these everyday practices was through visualizing the GPS data in the web map, which we have previously looked at. The web map was quite literally assembled during a week in June 2011, when 20 teenagers were moving about with GPS devices in their pockets. When looking at the web map from an ANT-perspective, the map doesn't work as a representation of Aalborg Øst in the traditional sense. When GPS devices, people, scooters, databases, satellites, cycle paths, dogs, kayaks and many, many other things are associated, a translation occurs. While the scope of this analysis is not to look at how this association happens as such, it is still useful to maintain an ANT-inspired look at the online map because it tells us something about what GPS tracking does. Latour's famous example of the gun is illustrative when looking at what the translation entails. Put very briefly, it is neither guns nor humans that kill; it's the association of human to gun that kills because there is something more-than embedded in this association. As Latour puts it: "You are different with a gun in your hand; the gun is different with you holding it."(1999:179) If we look at the web-map as an association, it is something different to a GPS tracking device sitting in a drawer in my office, it is different to Anette taking a walk along Astrupstien with her friends, it is different to the Google map I use as a background map.

The web-map emerges as these associations - or links - happen, and equally important, it is co-constitutive of the reality I research. In that respect, the map follows the logic of Kitchin and Dodge when they speak about maps as:

"Of-the-moment, brought into being through practices (embodied, social, technical), always remade every time they are engaged with; mapping is a process of constant re-territorialisation. As such, maps are transitory and fleeting, being contingent, relational and context dependent. Maps are practices - they are always mappings; spatial practices enacted to solve relational problems." (Kitchin, Dodge 2007:335)

With this quote we come closer to an understanding of what the GPS map does. Had I skipped this initial stage of the data analysis and only processed data in a GIS, the end-result would have been more detached from the practices I was trying to capture. Even if the GIS maps are just as fleeting as the web map, they appear more persuasive. Because the web map is joined through practices and it emerges through these practices, it makes for a powerful and tangible visualization of how everyday mobilities weave Aalborg Øst together. This aspect was most compellingly played out during the week when the participants carried the GPS devices and the map was literally in the making. An animation was later produced to illustrate the dynamic aspect of the GPS data. The web map equally captures the open-ended associations that make up a map. To illustrate this open-endedness, it is useful to draw on Latour's notion of oligopticon, as explained by Albrechtslund et al. (2013:2):

"The oligopticon indicates a specific, grounded view, developed partly in critical dialogue with the all-seeing 'panopticon'(...) Oligoptica produce invisibilities in the sense that a specific gaze will always be blind to everything outside of the particular focus (...) An important obser

vation concerning these fragile, narrow gazes is that they are produced by networks. Oligoptica are dependent on a chain of actors that need to work together to produce a certain visibility."

Visibility also creates invisibility and that is an important point when dealing with these types of aggregated views of the urban. Bearing this notion of the oligopticon in mind, we see more clearly the partial gaze that the GPS tracks create. When the web map was assembled in June 2011, the fragile nature of the associations that made up the map was also very tangible. The map was dependent on the participants' actual participation and when they forgot to charge their GPS devices or switch them on, the links which made up the map became fragmented. The oligopticon should warn us against the persuasive nature of GPS tracking. The tracks can be representative; instead they enact and perform. The point I am driving by looking at the map as a partial gaze is also that it encompasses the complexities that make up this map by visibly not being all-encompassing and stable. In other words, GPS tracking helps us capture the urban as it is enacted so when looking at the maps produced in this research project through ANT-glasses, we see them as something other than passive representations. They become through practice, and in turn, they are co-productive of the realities I am looking at in this research project.

The visual dimension is particularly important to the realities the research project creates and participates in. Calling to mind Latour's story about the map of Sakhalin, he urges us to look at the impact of inscriptions - or rather, the impact of visualizing. La Pérouse's map of Sakhalin was successful because he managed to insert a delicate drawing in the sand into a powerful network space made up of "Mercator's projection, marine clocks and their markers, copper engraving of maps, rutters, the keeping of log books, and the many printed editions of Cook's voyages that La Pérouse carries with him." (Latour 1990:66) The sand drawing was turned into an immutable mobile and enabled La Pérouse to travel back to France to let the map do work in the world, which was to sustain the empire. The same is at play with the maps assembled in this research project, although I would argue that there is a subtle difference between La Pérouse's map and the maps of Aalborg Øst drawn by the participants. The dynamic and fleeting nature of GPS tracking can be likened to the drawing in the sand on the beach of Sakhalin. At least when the data collection was carried out, the web map became what Kitchin and Dodge call a mutable mobile: the participants' movements were constantly rewriting the map of Aalborg Øst. By rewriting the map with their bodies, they were also participating in making the maps, and this embodied engagement is another crucial aspect to the maps assembled in this research project, which I will elaborate on in the following section. When asking the question "what does GPS tracking afford the knowledge production?" I would argue that it enables us to look at and engage with the urban in its emergent form and thereby create a space for a more mobile and practice-oriented knowledge production. With the oligoptic view in mind, GPS tracking weaves together a narrative which captures some of the complexities which make up a place. While an ANT-inspired analysis would assume a symmetrical relation between everything that makes up the worlds we inhabit and the people who move about in these worlds, I reserve the right to insert and privilege an embodied perspective on this amalgamation. I will explore this perspective in the next section, when we will look at what the embodied nature of GPS tracking affords the knowledge production.

Investigating the urban as embodiment

Again returning to the web map, it wasn't until I saw the colourful lines emerging on the web map that I properly grasped the embodied aspect of my research method. This aspect is clearly related to the analysis we did in the previous section; the tracks only appeared through the assemblage and participation of many different actors, one of them being moving bodies. What is it those lines on a computer screen mediate and what does this mediation offer when we investigate the urban? While we have already touched upon the associations that make up the GPS maps, I now put this assemblage in brackets and privilege the moving body as a starting point for the next enquiry. It is the relation between GPS technology and body that I will explore in this section, drawing on the post-phenomenological framework. Drawing on Ihde's notion of mediation of perception I hope to come closer to an understanding of what the "more-than" of the GPS technology-body relation is and what this affords the knowledge we can produce about our cities.

I begin by looking at the body-GPS technology relation as an embodiment relation, when technology extends our sensory and perceptual experience of the world. The embodiment relation in this research project emerged when data was visualized and this visualization was presented to the participant. The body-GPS technology relation produced and inscribed personal trajectories on a map, and this assemblage in turn expanded the sensory (visual) extent of the body. The trajectories captured in this process made visible movements and practices which otherwise remained invisible. I suddenly see where I was yesterday and the map thus becomes an extension of my percep-

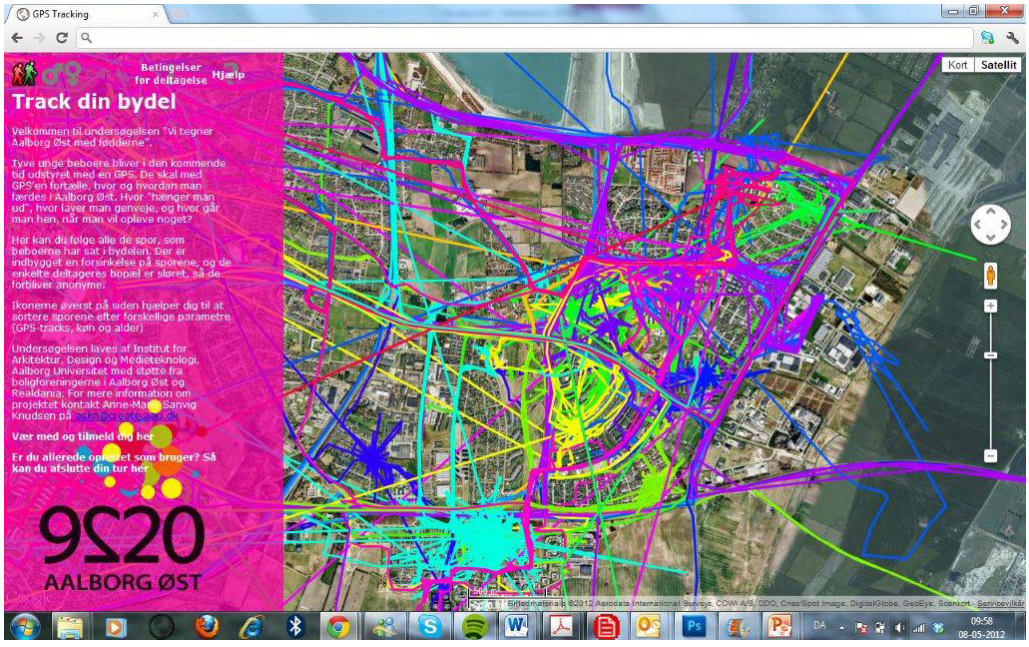


Fig 50: Online visualisation of GPS tracks

tion of my everyday life. As we saw in chapter 8, when speaking to the participants about their GPS tracks, there was a level of recognition but also surprise at what they saw. Did I really walk that far? The embodied relation was equally apparent in Ester Polack's Milk project where Mr. Idiris sees his everyday life unfold as a robot draws his GPS tracks in the sand. At the same time, Mr. Idiris starts interpreting the abstract lines and this shows the alignment with the hermeneutic relation: "When relations in the world are not perceived through the artefact but by means of." (Verbeek 2005:126)

The visualization of the GPS data forms a map, which in turn requires interpretation. But because of the embodiment relation, the lines don't remain abstract to the participants; they are, in fact, able to read them in great detail and this reading again is evocative of more affective aspects. Anette remembers how it feels to ride her scooter when she sees lines circling around the pathways. This perspective thus echoes a more phenomenologically inspired approach to how we conceptualize the places we engage with. These places emerge through the situatedness of the body. As Casey puts it: "There is no place without self and no self without place." (Casey 2001:684) But while more traditional phenomenologically inspired human geographers have emphasized the rootedness of place, the GPS technology allows us to investigate places as they emerge through interaction and mobility. However, the GPS technology helps us undertake this investigation by mediating an embodied - and mobile - experience of being in place.

When looking at how the participants engaged with the actual technology, it is useful to look at alterity and background relations because they relate to how successful the data collection was. When I carefully tried to work out the best way to hand out and guide the participants in how to use the GPS device, I was in practice trying to handle an alterity relation. As I touched upon in a previous section, the appearance of the tracking device is distinctively "technological". With a minimalistic interface - a big red on/off button and three flashing diodes indicating if it is communicating with any satellites - the GPS device is in one sense easy to operate. But because of its appearance, it is also easily perceived and handled as a quasi-other. The GPS device was not an incorporated part of the participants' everyday lives, which posed a challenge to the data collection because they would easily forget to charge the GPS device or forget to bring it along. Similarly, I have often been asked if I thought the participants altered their routes because they were carrying a GPS device and if that posed a challenge to the reliability of the data. I would argue that it is less important whether the data mime a 1:1 relation between tracks and the participants' daily mobility; it is not the aim of the research project to undertake such an investigation. Instead I am looking for what it is the methodology affords our understanding of the urban. In that respect, I would argue that the alterity relation is productive because it inserts an awareness and thus a level of reflexiveness into the tracking process. When tracking, on the other hand, becomes a background relation, it potentially becomes much more intrusive because the participant is not aware of his or her participation in what is essentially surveillance. For practical – and ethical – reasons, the GPS device could never form a background relation in this research project, but in our daily lives most of us do participate in this kind of surveillance when communications service providers log phone and internet data. Current debates on NSA and their extensive surveillance of ordinary citizens equally illustrates this point. When looking at this particular kind of human-technology relation on a more general level, it clearly forges careful ethical deliberations when we employ everyday technologies like smart phones as tools for data collection on people's everyday mobility. Location data are telling, and the more that tracking technology steps


VELKOMMEN!
EN AKTIV BYDEL

into the background, the more vulnerable the participant potentially becomes.

Returning to the question "What does GPS tracking afford the knowledge production," I would argue that the distinctively embodied character of the method allows us to engage in how the urban is enacted, not just from an aggregated level, but also as an ambulatory and situated practice. When "revisiting" the GPS tracks with the participants, the tracks become embodied because they mediate a moving body - my moving body - and thus open up a rich narrative of how people make sense of places through doings. This knowledge is useful in its own right but it also opens a door for a different kind of participation in urban planning, which we will look at in the following section.

Participation

As the GPS trackings and mappings unfolded throughout the research project, it became increasingly clear that there was a participatory potential embedded in the methodology which held a relatively unexplored potential in relation to urban planning. In particular, the master planning process in Vollsmose showed what GPS tracking does as a participatory tool when I engaged in a dialogue with the participants about their tracks. In order to extract what it is about GPS tracking that lends itself well as a participatory method, I draw on Albrechtslund et al. who look at participation as an intrinsic characteristic of surveillance, and on this basis develop an analytical concept of participation. The basic premise for their line of argument is that "participation is not only related to a certain type of surveillance, but a general characteristic of surveillance" (Albrechtslund, Lauritsen 2013:5). Without people moving about there would be no data and no maps! While their conceptualisation of participation is analytical rather than normative, it is useful to apply when looking at how we might understand the participatory affordance embedded in GPS tracking and what it offers to a planning process.

Even if the research project didn't set out to look at participatory planning, it became a substantial "by-product" of the process. This potential was, as mentioned above, unfolded when we undertook the GPS survey in Vollsmose. The principal aim of this project was to involve a group of teenagers in the master planning process and the aggregated level - the "where, when, and who" of the GPS tracks - was initially secondary to the project. Participation thus played a key role in the process - the aim was to qualify through inclusion and, as such, the GPS trackings served as a tool to enable this participatory objective. What I didn't anticipate was the participatory element already embedded in the method. When the participants mapped Vollsmose with their feet, they were visibly co-productive of the project output as the web map emerged. The method allowed the participants to self-survey and participate proactively in this process. In relation to mapping running practices with the app Endomondo, Albrechtslund et al. note (2013):

"***The selfsurveillance practice of tracking runs with a GPS watch produces a new gaze, a quantified segmented overview of the bodily performances (...) A shared sports activity does not only produce individual motivation, but translates into something more. The activity will integrate into other ego-centric networks and, potentially, motivate other users to perform better and in that sense become a collective incentive.***"

It is exactly the same dynamic I discovered when observing the participants observing themselves and their peers. The selfsurveillance caused not only themselves but also the rest of the group to reflect on the tracks, because their own practices suddenly became visibly entangled with their friends'. This collective and embodied aspect was further explored in a joint

workshop where I presented and discussed the processed GPS data, which had been turned into GIS maps, depicting the "who-where-and-when". Again drawing on Albrechtslund:

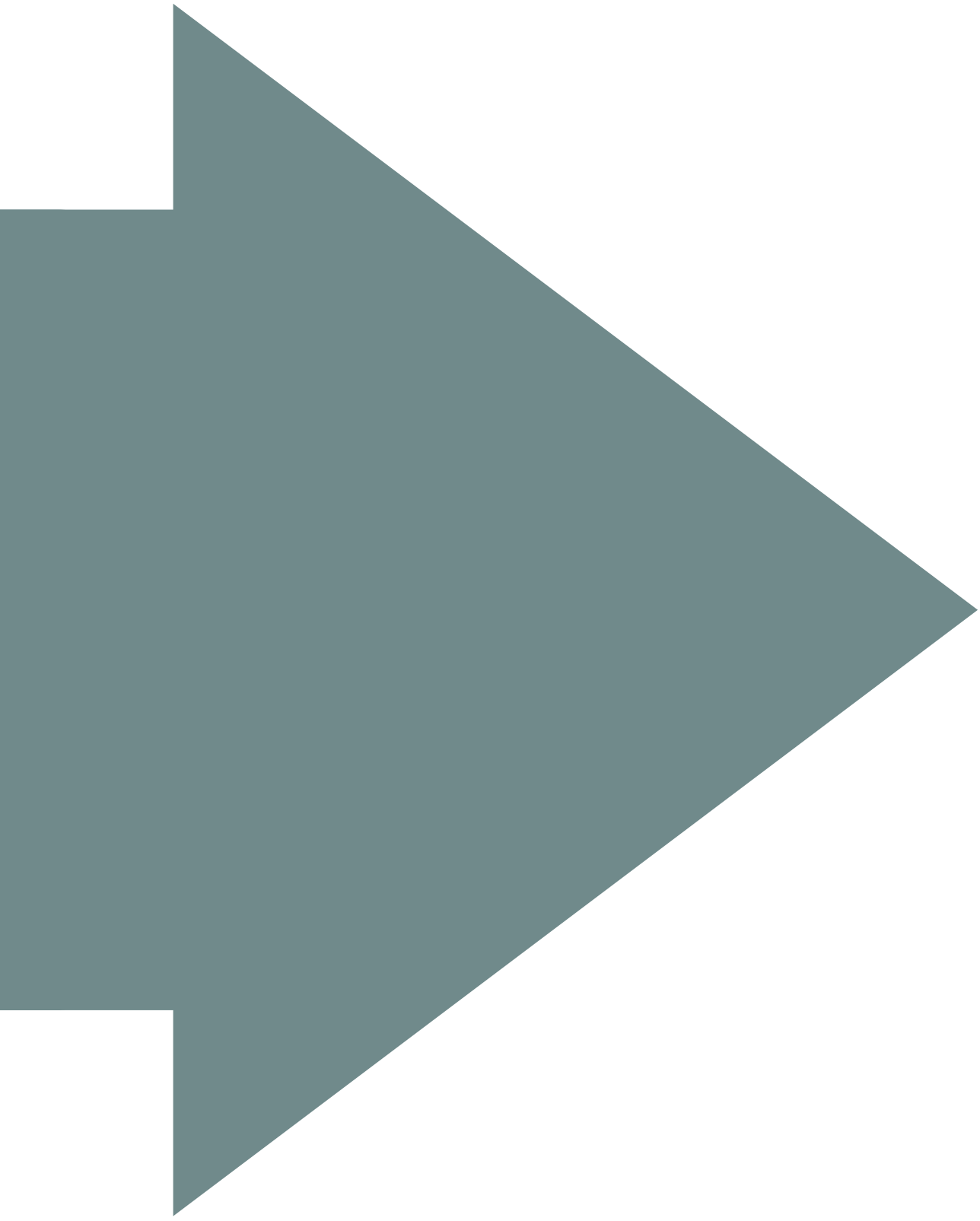
"The proactive participation in selfsurveillance practices remains central to these many translations. Even though the runner's experience of the run with all the sweat, tiredness, joy, etc. this might involve is only a faint trace, it is still what facilitates all the translations. In this way, selfsurveillance has assumed the unusual role of the facilitator of individual and collective motivation as well as social interaction. However, it is important to remember that an overview is still oligoptic and hence a limited and fragile view. The GPS watch and online sharing communities produce new knowledge but at the same time it makes the actual bodily and mental experience invisible". (2013:4)

While the lack of bodily and mental experience might be a shortcoming of the ANT analysis, I would argue that the tracks still resonate these experiences because they were essentially produced by bodies in conjunction with a series of other elements. And because of this resonance, it was possible to qualify a collective reflection about what the tracks meant. This, in turn, helped to articulate relevant questions to participants about their views and opinions on their neighbourhood, and, ultimately, this helped raise relevant issues to the master plan itself. While GPS tracking affords new knowledge about how cities are enacted, the "proactive participation in selfsurveillance" enables new forms of participation which is situated, practice-oriented, but also distributed. Recalling de Waal "with digital media new networked publics can be activated, beyond top-down or bottom-up but peer-to-peer and distributed" (2012). When working with participation in planning, these are promising potentials because the method allows for participation to be contextualized. Rather than asking citizens to turn up at a community hall in the evening, they can be involved on site in the relevant context and location. That allows for more relevant input and it opens up for new groups to participate. Secondly, interaction and problem-definition happens horizontally rather than vertically, and thus helps overcome the top-down/bottom-up dichotomy often embedded in participatory planning.

Summary

This last stage of the analysis sought to look at the "more-than" embedded in GPS tracking. What does the method do and what does it afford an investigation of the urban? The first step of the analysis was to look at the aggregated level. Drawing on the ANT-framework I looked at the associations that make up the GPS tracks and what they do. By conceptualising the tracks as partial views, building on Latour's notion of the oligopticon, they encompass the open-ended and complex nature of the practices that the tracks capture. I would thus argue that GPS tracking enables us to look at and engage with the urban in its emergent form and thereby create a space for a more mobile and practice-oriented knowledge production. Secondly, I looked at what the embodied character of the method affords the knowledge production.

Drawing on the post-phenomenological framework, we saw how the GPS track inserts an embodied as well as an hermeneutic relation. These mediations are useful when engaging with how places emerge from an embodied and affective perspective. This is, in turn, pointed at a participatory potential embedded in the method. Using the conceptualisation of "proactive selfsurveillance" as defined by Albrechtslund et al (2013), we looked at how GPS tracking enabled collective, citizen to citizen reflections on how people engage with their cities and this reflection is based on user-driven and situated inputs. While this discovery was a "by-product" of the research project, it still points to a relevant potential when further qualifying participatory planning processes.



CLOSING

11

Closing

This final chapter highlights what I have identified as the main findings and contributions of the research project and I will round up the chapter by drawing up perspectives and possibilities for further research and enquiry.

The dissertation seeks to investigate the interplay between user, place and GPS technologies: how can we use these entanglements to generate knowledge about the (sub) urban on a theoretical as well as a practical level and what does GPS tracking afford the knowledge we create in this process?

The empirical quest, made up of user, place and GPS, created many different perspectives on what Aalborg Øst might look like. Rather than approaching Aalborg Øst as a container, I decided to let follow the actors, so to speak and let them assemble their everyday lives and practices. This enquiry was based on a metatheoretical framework, informed by ANT and post-phenomenology. When applying these "glasses" to the research object- the suburb- it allowed me to foreground an enquiry into how places are made up of encounters of not just people but also scooters, emotions pets, dreams and footsteps, to name a few. Secondly the metatheoretical framework allowed me to address the initial query: what is the more-than embedded in GPS-tracking. Methods are not just neutral tools with which we dissect Reality. They are performative and co-constituitive of the realities we investigate. On the basis of these premises, what happens when looking at the assemblage place, user and GPS technology? What kind of knowledge did it generate?

Main findings

The map was a key element in this enquiry as it materialized the entanglement I was investigating. Chapter 8 identified three different affordances which are particular to the GPS map: the map as aggregation, the map as embodiment and the map as public sphere.

The map as aggregation:
One key aspect of the GPS maps is that is allows us to draw up aggregated pictures of how we use our cities. Trip diaries, participant observations and questionnaires are methods which might also be employed to answer the same question. But the assemblage place, user and GPS technology allows us to collect information about peoples' actual uses of the urban environment, based on their actual uses. This is particularly interesting when applying the method in the context of urban planning because the method provides direct feed-back into how we engage with the urban environment. This feed-back on the other hand might be deceptive and is related to the persuasive qualities of the GPS maps. While data at the aggregated level undoubtedly are useful for mapping and analysing general movement patterns, these patterns are never all-encompassing. They always draw a partial picture and should never form the only basis of actual decision-making. This doesn't however dis-qualify using GPS-data and maps as an aggregated tool. As aslo demonstrated with the MIT Trash Track project and Natural Fuse, aggregated data visualisations might help raise awareness of collective use- and consumptions patterns.

The map as embodiment:
The tracks which the participants left behind are interesting because they represent a different type of dialogue, which goes beyond verbal or written communication. Instead of articulating their practices in words, the participants used their feet-or scooters and bicycles-to mediate how they practice their city. Their moving bodies, in other words, were crucial for the data collection. However, without the interplay between a moving body, the GPS-device and the urban environment, this narrative would have remained invisible. The tracking technologies allow us to capture the embodied everydayness of mobile practices, which for most of the time goes un-noticed. The GPS-tracks manage to capture some of the complexity of lived prac-

tices as they take shape and morph. The trajectories created were, unlike a 'traditional' map, fleeting in their nature. This fleeting property is afforded by the tracking-technologies allowing the moving body to be the main author of the map. Secondly, the top-down properties of the map, merges with a bodily narration, or inscription of the urban environment. The lines on the map are literally drawn by the participants and his GPS-device and articulate an individual spatiotemporal narrative. These properties secure a dynamic permanence to all these transient everyday practices - the "remainder" which is not captured in statistics, sociological models or discourse analysis. Because this information is based on everyday practices- I didn't ask the participants to do anything other than to just stick to their daily routines- it also has a more immediate and affective quality which resonates with the participants.

The map as public sphere: When opening up the black-box and visualizing the GPS data as it emerged, the map became a collective assemblage. This enabled the participants to engage in a peer-to-peer conversation about how they engage with their city and their neighbourhood. The maps helped qualify this dialogue about how the participants use the urban environment because they merge the aggregated level with the embodied, individual uses. In this instance the GPS maps made the notion of a networked publics very tangible because they were drawn collectively. This instant peer-to-peer participation process was enabled by the affordances embedded in the mobile media technologies employed, creating a collective map which by-passed the top-down/bottom-up dichotomies often embedded in planning processes.

This partial perspective of Aalborg Øst which emerged was equally interesting because it very clearly showed how the notion of community and geographical propinquity needs to be challenged when understanding the dynamics of place. When zooming out of the map, patterns emerged which completely ignored the mental and administrative borders which often define Aalborg Øst. The suburb in other words is not an island. Instead it was defined by a multitude of trajectories weaving in and out of each other and the picture drawn by the participants was a reflection of 20 lives carried out in many different geographies and social networks other than just 'home'. This finding serves to challenge the notion about the geographically defined community which often drives housing regeneration project.

GPS tracking as an assemblage and participation:

While the above summarized what GPS tracking affords the knowledge production as a methodology, the research project also looked at GPS tracking in itself. What is the more-than embedded in the entanglement between use, place and GPS technology and what does it afford the knowledge production? What is its intrinsic qualities as a methodology?

There are two distinctive features of the method. One is that GPS tracking, like Latour's gun, becomes an association of actors and thus becomes more than just "GPS tracking". If we look at the web map as an association- or an assemblage- it is something different to a GPS tracking device sitting in a drawer in my office, it is different to Anette taking a walk along Astrupstien with her friends, it is different to the Google map I use as a background map. The web map emerges as these associations- or links- happen- and equally important it is co-constitutive of the reality I research. GPS-tracking helps us capture the urban as it is enacted so when looking at the maps produced in this research project through ANT-glasses, we see them as something other than passive representations. They become through practice and in turn they are co-productive of the reali

ties I- and the participants- participate in. This is closely related to the actual visualisation and mediation of the assemblage of actors mentioned above. The trajectories captured in the process made visible movements and practices which otherwise remained invisible. The visualisation GPS data mediates an embodied experience of place.; it becomes a sensory extent of the body. This mediation requires an interpretation but because of the embodied relation, the trajectories don't remain abstract to the participant. This again ties in with the participatory potential embedded in the method which is with a key finding of the research project. Drawing on Albrechtlund (2013), participation is an intrinsic characteristic of surveillance, i.e. GPS-tracking. Without moving bodies, there would be no data and no maps. While GPS tracking affords new knowledge about how cities are enacted, the "proactive participation in selfsurveillance" also enables new forms of participation which is situated, practice-oriented and importantly distributed. When working with participation in planning these are promising potentials because the method allows for participation to be contextualized. Rather than asking citizens to turn up at a community hall in the evening, they can be involved on site in the relevant context and location. That allows for input wjich is more qualified and "to-the-point" and it opens up for new groups to participate. Secondly, interaction and problem-definition happens horizontally rather than vertically and thus helps overcome the top-down/bottom-up dichotomy often embedded in participatory planning.

Perspectives on Aalborg Øst:
The research project also unfolded a series of everyday perspectives on Aalborg Øst and generated more perceptible knowledge about how the suburb is practiced as a place. Chapter 9 followed six participants, which led me on walks around Aalborg Øst, while sharing their perceptions on their neighbourhood . These walks added a new, affective layer to the GPS maps and created a richer, yet open-ended narrative about how participants bring their neighbourhood being through their everyday practices. The stories which unfolded during the interviews gave hints at how young people engage with the urban environment. These hints and insights are worth passing on to a wider audience as they may help qualify how to accommodate the needs of this age group in urban planning.

Through the participant-led walks a 'teenage' perspective opened up to me which had been otherwise invisible. Because teens often stage their social identities in public spaces, they look for features which afford these activities. This perspective was unpacked by Anette who showed me which places in Aalborg Øst worked as appropriate settings for her social life. An otherwise understated tunnel turned out to be a complex stage for performing social identities. Similarly, speed bumps paradoxically turned out to be an important element in staging and performing a particular scooter culture in Aalborg Øst. The 'scooter-scapes' which emerged were based on subversive appropriations of the urban environment. This shows how the intentions and functionalities embedded in the physical layout of the urban environment become multifaceted and in some cases ambivalent, depending on the eyes and bodies engaging with a place. This ties in with the spatial practices of the participants. Engaging in the 'why' and 'what' added a more qualitative layer the GPS. When adding this qualitative layer to the GPS tracks we see how values and meanings are created through mobile, spatial practices Walkways weave Aalborg Øst together and the GPS maps show that the participants tread these paths frequently. The participants used walking- or drifting- as a way of playing out social identities and social geographies of Aalborg Øst. Walking it turned out had a much more complex set of meanings than just moving from A to B. When Anette and her friends appropriate a place- the tunnel or a

grassy corner along Astrupstien- they declare it their territory by their sheer presence. Without this presence the territory is lost. In that respect they very much create their places on the go; places that are not necessarily defined as designated areas but as places that emerge dynamically. But something else was at play when the participants appropriated places. A constant negotiation and plea for acceptance was at stake. Walking is a way of negotiating their right to Aalborg Øst and is very much a front stage activity. At the same time the participants expertly negotiate front stage and backstage activities. On a neighbourhood level there are front- and backstage practices and places which accommodate such practices. Liv withdraws from to a more intimate sphere with her closest friends when they observe passers-by from a bench on a grassy hill. These spatial practices and the social geographies extend beyond Aalborg Øst. Aalborg City centre is also main stage for playing out social identities. Again these spatial practices merge with how their social identities are orchestrated using social media platforms like Facebook. These virtual and physical spaces are not necessarily in opposition but complement each other.

When walking Aalborg Øst with the participants an intricate social geography also unfolded. The tunnels, turned out to be demarcations of an internal social geography, which again was perpetuated through spatial practices. Some participants strongly associate themselves with being from the "real" Aalborg Øst and articulated a sense of belonging and brotherhood. Others disassociated themselves from this geography and thus the social identity implied. These ambivalent territorialities are tied up with the popular perception of Aalborg Øst as a stigmatized neighbourhood. All participants in one way or the other positioned themselves in relation to this discourse through the narrative they created about Aalborg Øst. In turn the imagined, stigmatizing geographies of Aalborg Øst had a knock-on effect on how the internal social geographies were enacted through spatial practices.

Perspectives

In the following I will briefly run through some suggestions and pointers for further research and enquiry.

Participation
One of the main findings of the research project was the participatory potential embedded in tracking technologies. Because participation in planning processes wasn't included in the initial research question, it remains a less developed yet promising part of the research project. Due to the dissemination of smart phones, there is an obvious potential in looking at how to employ the location awareness embedded in these technologies as participatory planning tools. The location awareness allows us to meet the citizen in the relevant context: the urban environment and it is based on personal and embodied inputs. These inputs however are easily added up to encompass an aggregated and collective level. This potential taps into and challenges the smart city discourse, which primarily deals with the aggregated perspective on the city. Big data has become a buzz word, not just in academia, but also in urban management and planning circles. The question remains how we can develop not just smarter, but also more social cities?

The relational city
One aspect which became very apparent when mapping the participants' everyday lives was that a concentric city typology is being challenged by a relational city typology. When understanding how the urban "works", the notion of an absolute scale is increasingly becoming redundant. Cities- and our everyday lives- are tied up in intricate networks, assembled by things, people, politics, financial markets, digital infrastructures Just to name a few. A resident in Aalborg Øst keeps in touch with his relatives

in Hamburg on Skype, and this community is much more pertinent to him than a community made up of his next door neighbours. A surfer in Klitmøller is culturally more aligned with a Nørrebro hipster than a local fisher man, and to him the local surf environment is just as cosmopolitan as Jægersborggade in Copenhagen. These examples represent new forms of mobilities and are mediated, amongst other things, by digital media technologies. These practices challenge and morph the way we engage with and understand places. In turn this should inform the way we plan cities- and rural areas for that matter. How do we understand the nitty-gritty, the everyday lives and practices, that make up cities from a relational perspective and what are the impact on how we understand and plan cities?

How to plan for and with teens

Young people are major consumers of open public spaces. The research project shows how teens use public spaces to perform social identities and belonging. The way they stage these identities are also orchestrated by their presence on social media platforms. In order to understand how to plan for- and with- teens it would seem relevant to investigate how they appropriate and merge virtual and physical places. Furthermore, there is a pressing gender-perspective which calls for further exploration. Girls appear to be more passive users of public spaces. Girls often stop running and playing in public space when they reach the adolescent years and conversely boys often continue a more active and playful appropriation of the urban environment. Instead girls participate indirectly by watching and observing. This "gender divide" may or may not be reproduced by the way public spaces are designed; skate board parks, basketball pitches and parkour facilities are often found in public spaces and address the needs of boys primarily. So how do we design urban spaces which facilitate and activate girls and to what extent does the way we design the urban environment replicate gender stereotypes?

Mobility as a planning parameter

In recent years planning has moved from a sectorial to a cross-sectorial area-based focus. The reasoning behind this is that you, as a citizen, don't live your life in sectorial silos and therefore shouldn't be managed as such. Instead the focus has been on giving priority to activities and projects intersecting within a given geography when working with urban development. Drawing on lessons learned from this research project and a general diffusion of mobility management strategies in urban and regional planning, it would be interesting to further explore an emerging mobility planning paradigm. Again, as shown in this research project, we live our lives in many networks and geographies and how might we be able to counter that in in the way we do urban and rural planning? One thing is to plan for mobility, another is to apply mobility as a planning parameter. What would the implications and challenges be in administrational and organisational terms? What kind of planning might a mobility parameter enable? Which methods are appropriate when working with mobility as a planning parameter?

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